

ŠKODA

Workshop Manual OCTAVIA II 2004 ➤

Automatic Gearbox DSG - 02E

Edition 10.04



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List of Workshop Manual Repair Groups

Repair Group

00 - Technical data

30 - Clutch

34 - Control, housing

35 - Wheels, shafts

39 - Final drive, differential gear

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Technical information should always be available to the foremen and mechanics, because their careful and constant adherence to the instructions is essential to ensure vehicle road-worthiness and safety. In addition, the normal basic safety precautions for working on motor vehicles must, as a matter of course, be observed.

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00 – Technical data

1 Technical Data for the Gearbox

1.1 Identification of the gearbox

The "6-speed automatic gearbox DSG - 02E" is installed in combination with 4-cylinder engines. Assignment ➔ [page 4](#).

Location of identification code letters on the gearbox

Example for a gearbox:

The gearbox identification character is located at the top of the gearbox, close to the gearbox oil cooler.

- ◆ HLH = gearbox identification character
- ◆ 13.08.04 = Production date 13th August 2004
- ◆ 14 = Factory code
- ◆ 06:32 = time
- ◆ 0011 = serial number

The gearbox identification characters also appear on the vehicle data stickers.



Note

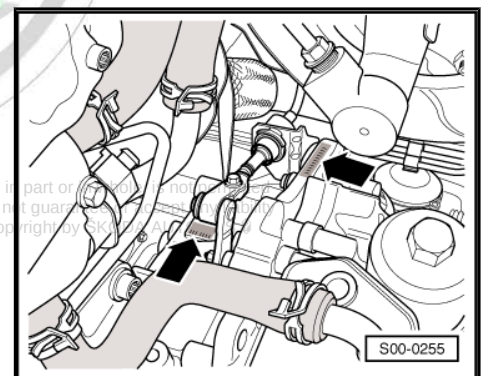
If these vehicle data stickers are not available and another gearbox is installed than the one intended or you have no other possibility to identify the installed gearbox in case of doubt, then read off the engine identification characters directly from the gearbox ➔ [page 1](#).



1.1.1 Read off the gearbox identification characters

Short description

On certain gearboxes the additional identification characters are located at the top of the gearbox close to the selector lever control cable -arrows-.



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In order to read off the code letters below the console directly from the gearbox, the engine must be supported. The console -A- of the left unit mounting must be removed.

When doing this, it is important to lower the engine/gearbox sufficiently until the console can be pushed to the rear. If they are lowered further, the pendulum support will be damaged.

After the installation, the selector lever control cable must be set
⇒ [page 65](#) .

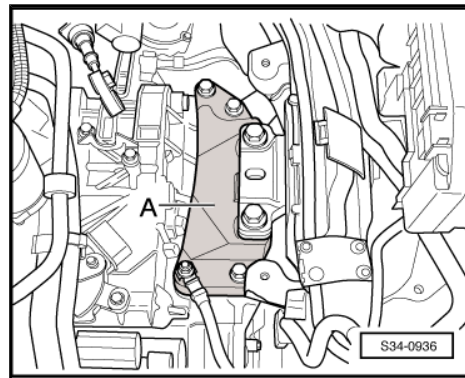
- Remove the complete air filter housing ⇒ Engine; Rep. Gr. 23 or ⇒ Engine; Rep. Gr. 24 .



Note

If the battery earth strap is disconnected and connected, carry out certain additional operations ⇒ Electrical System; Rep. Gr. 27 .

- Remove battery ⇒ Electrical System; Rep. Gr. 27 .
- Remove battery tray.
- Support engine with gearbox using supporting device - T30099- . Do not raise.

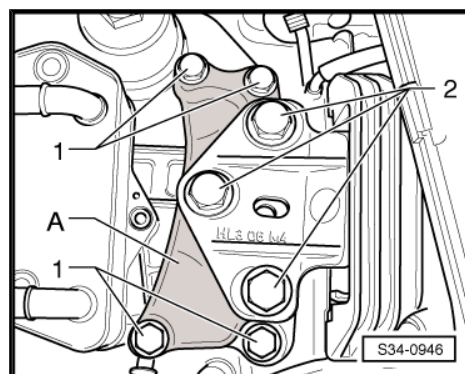
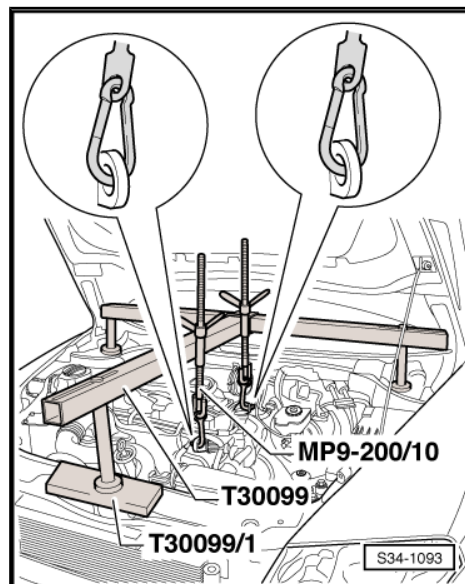


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- Unscrew all screws -1- and -2- of the console -A-.

The screws must be replaced.

With both spindles carefully lower the engine with the gearbox alternately by 2 turns.

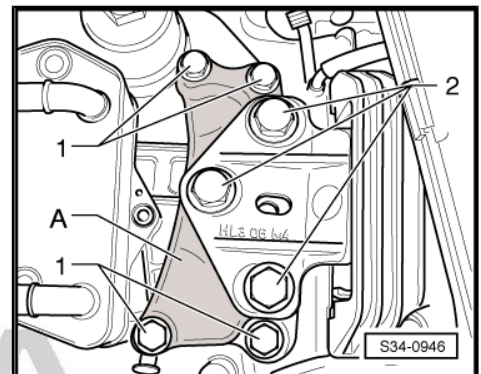
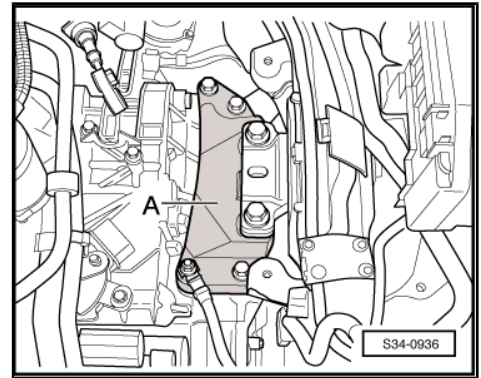


Maximum 4 turns is sufficient, in order to take out the console -A-.

After reading off the gearbox code letters, the assembly is carried out in the reverse order.

i Note

- ◆ However, pay attention to all following instructions.
 - ◆ Replace all screws of the left unit mounting.
 - ◆ First screw in all the new screws by hand.
- Screw console -A- onto the gearbox with the screws -1- and -2- ➔ [page 105](#) .
 - Setting selector lever control cable ➔ [page 65](#) .



1.2 Identification of rear final drive

The rear final drive 0BR is assigned to the automatic gearbox DSG - 02E for four-wheel drive.

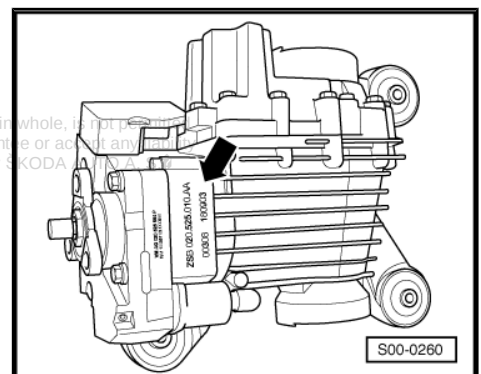
i Note

- ◆ The "Haldex coupling" is located in the rear final drive.
- ◆ The final drive and the "Haldex coupling" have separate oil circulation systems.
- ◆ The final drive "0BR" is fitted with the "Haldex coupling of the 4th generation".

Assignment ➔ [page 4](#) .

Location on the final drive

Part number, identification characters of the final drive, production date -arrow-.



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Rear final drive 0BR

-Arrow A- Part number of rear final drive

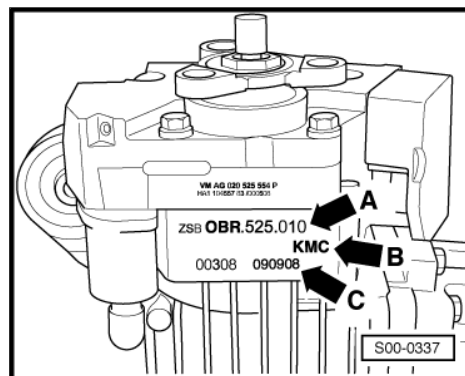
-Arrow B- Identification characters rear final drive



Note

The identification characters do not appear on all final drives. If they do not appear, assignment ⇒ Electronic Catalogue of Original Parts.

-Arrow C- Production date



Example:	KMC	09	09	08
	Identification characters	Day	Month	Manufacturing year (2008)

Additional data gives information about the manufacturing factory.

1.3 Identification characters, aggregate assignment, ratios

Automatic Gearbox DSG - 02E		02E "front-wheel drive"		
Gearbox	Identification characters	HFQ	HLH	HQL
	Manufactured from through	11.04 05.05	08.04 05.05	06.05 11.05
Assignment	Engine	2.0 ltr./100 kW TDI PD 2.0 ltr./103 kW TDI PD	1.9 ltr./77 kW TDI PD	2.0 ltr./100 kW TDI PD 2.0 ltr./103 kW TDI PD
Ratio: Z2 : Z1	Final drive for 1st gear through 4th gear	70 : 17 = 4,118	70 : 16 = 4,375	70 : 17 = 4,118
	Final drive for 5th gear through 6th gear	70 : 23 = 3,043	70 : 21 = 3,333	70 : 23 = 3,043
Ratios	1st gear	45 : 13 = 3,462	45 : 13 = 3,462	45 : 13 = 3,462
	2nd gear	41 : 20 = 2,050	41 : 20 = 2,050	41 : 20 = 2,050
	3rd gear	39 : 30 = 1,300	39 : 30 = 1,300	39 : 30 = 1,300
	4th gear	37 : 41 = 0,902	37 : 41 = 0,902	37 : 41 = 0,902
	5th gear	32 : 35 = 0,914	32 : 35 = 0,914	32 : 35 = 0,914
	6th gear	31 : 41 = 0,756	31 : 41 = 0,756	31 : 41 = 0,756
	Reverse gear	33 : 13 x 22 : 14 = 3.989	33 : 13 x 22 : 14 = 3.989	33 : 13 x 22 : 14 = 3.989
i _{tot.} in the highest gear		2,300	2,520	2,300
Drive shaft flange		⇒ Electronic Catalogue of Original Parts		

Automatic Gearbox DSG - 02E		02E "front-wheel drive"		
Gearbox	Identification characters	HQN	HXS	HXU
	Manufactured from through	06.05 11.05	11.05 10.06	11.05 10.06



Automatic Gearbox DSG - 02E		02E "front-wheel drive"		
Gearbox	Identification characters	HQN	HXS	HXU
Assignment	Engine	1.9 ltr./77 kW TDI PD	2.0 ltr./100 kW TDI PD 2.0 ltr./103 kW TDI PD	1.9 ltr./77 kW TDI PD
Ratio: Z2 : Z1	Final drive for 1st gear through 4th gear	70 : 16 = 4,375	70 : 17 = 4,118	70 : 16 = 4,375
	Final drive for 5th gear through 6th gear	70 : 21 = 3,333	70 : 23 = 3,043	70 : 21 = 3,333
Ratios	1st gear	45 : 13 = 3,462	45 : 13 = 3,462	45 : 13 = 3,462
	2nd gear	41 : 20 = 2,050	41 : 20 = 2,050	41 : 20 = 2,050
	3rd gear	39 : 30 = 1,300	39 : 30 = 1,300	39 : 30 = 1,300
	4th gear	37 : 41 = 0,902	37 : 41 = 0,902	37 : 41 = 0,902
	5th gear	32 : 35 = 0,914	32 : 35 = 0,914	32 : 35 = 0,914
	6th gear	31 : 41 = 0,756	31 : 41 = 0,756	31 : 41 = 0,756
	Reverse gear	33 : 13 x 22 : 14 = 3.989	33 : 13 x 22 : 14 = 3.989	33 : 13 x 22 : 14 = 3.989
itot. in the highest gear		2,520	2,300	2,520
Drive shaft flange		⇒ Electronic Catalogue of Original Parts		

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Automatic Gearbox DSG - 02E		02E "front-wheel drive"		
Gearbox	Identification characters	JPL	JPJ	KCW
	Manufactured from through	11.06 05.07	11.06 05.07	06.07 10.07
Assignment	Engine	1.9 ltr./77 kW TDI PD	2.0 ltr./100 kW TDI PD 2.0 ltr./103 kW TDI PD	1.9 ltr./77 kW TDI PD
Ratio: Z2 : Z1	Final drive for 1st gear through 4th gear	70 : 16 = 4,375	70 : 17 = 4,118	70 : 16 = 4,375
	Final drive for 5th gear through 6th gear	70 : 21 = 3,333	70 : 23 = 3,043	70 : 21 = 3,333
Ratios	1st gear	45 : 13 = 3,462	45 : 13 = 3,462	45 : 13 = 3,462
	2nd gear	41 : 20 = 2,050	41 : 20 = 2,050	41 : 20 = 2,050
	3rd gear	39 : 30 = 1,300	39 : 30 = 1,300	39 : 30 = 1,300
	4th gear	37 : 41 = 0,902	37 : 41 = 0,902	37 : 41 = 0,902
	5th gear	32 : 35 = 0,914	32 : 35 = 0,914	32 : 35 = 0,914
	6th gear	31 : 41 = 0,756	31 : 41 = 0,756	31 : 41 = 0,756
	Reverse gear	33 : 13 x 22 : 14 = 3.989	33 : 13 x 22 : 14 = 3.989	33 : 13 x 22 : 14 = 3.989
itot. in the highest gear		2,520	2,300	2,520
Drive shaft flange		⇒ Electronic Catalogue of Original Parts		



Automatic Gearbox DSG - 02E		02E "front-wheel drive"		
Gearbox	Identification characters	KCU	KMZ	KMX
	Manufactured from through	06.07 10.07	11.07 05.08	11.07 05.08
Assignment	Engine	2.0 ltr./100 kW TDI PD 2.0 ltr./103 kW TDI PD	1.9 ltr./77 kW TDI PD	2.0 ltr./100 kW TDI PD 2.0 ltr./103 kW TDI PD
Ratio: Z2 : Z1	Final drive for 1st gear through 4th gear	70 : 17 = 4,118	70 : 16 = 4,375	70 : 17 = 4,118
	Final drive for 5th gear through 6th gear	70 : 23 = 3,043	70 : 21 = 3,333	70 : 23 = 3,043
Ratios	1st gear	45 : 13 = 3,462	45 : 13 = 3,462	45 : 13 = 3,462
	2nd gear	41 : 20 = 2,050	41 : 20 = 2,050	41 : 20 = 2,050
	3rd gear	39 : 30 = 1,300	39 : 30 = 1,300	39 : 30 = 1,300
	4th gear	37 : 41 = 0,902	37 : 41 = 0,902	37 : 41 = 0,902
	5th gear	32 : 35 = 0,914	32 : 35 = 0,914	32 : 35 = 0,914
	6th gear	31 : 41 = 0,756	31 : 41 = 0,756	31 : 41 = 0,756
	Reverse gear	33 : 13 x 22 : 14 = 3,989	33 : 13 x 22 : 14 = 3,989	33 : 13 x 22 : 14 = 3,989
Itot. in the highest gear		2,300	2,520	2,300
Drive shaft flange		⇒ Electronic Catalogue of Original Parts		

Automatic Gearbox DSG - 02E		02E "front-wheel drive"		
Gearbox	Identification characters	KQC	KPQ	KPS
	Manufactured from through	06.08 10.08	06.08 10.08	06.08 10.08
Assignment	Engine	2.0 ltr./100 kW TDI PD 2.0 ltr./103 kW TDI PD	1.9 ltr./77 kW TDI PD	2.0 ltr./125 kW TDI CR
Ratio: Z2 : Z1	Final drive for 1st gear through 4th gear	70 : 17 = 4,118	70 : 16 = 4,375	70 : 17 = 4,118
	Final drive for 5th gear through 6th gear	70 : 23 = 3,043	70 : 21 = 3,333	70 : 23 = 3,043
Ratios	1st gear	45 : 13 = 3,462	45 : 13 = 3,462	45 : 13 = 3,462
	2nd gear	41 : 20 = 2,050	41 : 20 = 2,050	41 : 20 = 2,050
	3rd gear	39 : 30 = 1,300	39 : 30 = 1,300	39 : 30 = 1,300
	4th gear	37 : 41 = 0,902	37 : 41 = 0,902	37 : 41 = 0,902
	5th gear	32 : 35 = 0,914	32 : 35 = 0,914	32 : 35 = 0,914
	6th gear	31 : 41 = 0,756	31 : 41 = 0,756	31 : 41 = 0,756
	Reverse gear	33 : 13 x 22 : 14 = 3,989	33 : 13 x 22 : 14 = 3,989	33 : 13 x 22 : 14 = 3,989
Itot. in the highest gear		2,300	2,520	2,300
Drive shaft flange		⇒ Electronic Catalogue of Original Parts		

Automatic Gearbox DSG - 02E		02E "front-wheel drive"		
Gearbox	Identification characters	KPV	LQZ	LQV
	Manufactured from through	11.08 11.08	11.08 10.09	11.08 10.09
Assignment	Engine	2.0 ltr./147 kW TFSI	2.0 ltr./147 kW TFSI	2.0 ltr./100 kW TDI PD 2.0 ltr./103 kW TDI PD
Ratio: Z2 : Z1	Final drive for 1st gear through 4th gear	69 : 17 = 4,059	69 : 17 = 4,059	70 : 17 = 4,118
	Final drive for 5th gear through 6th gear	69 : 22 = 3,136	69 : 22 = 3,136	70 : 23 = 3,043
Ratios	1st gear	45 : 13 = 3,462	45 : 13 = 3,462	45 : 13 = 3,462
	2nd gear	43 : 20 = 2,15	43 : 20 = 2,15	41 : 20 = 2,050
	3rd gear	41 : 28 = 1,464	41 : 28 = 1,464	39 : 30 = 1,300
	4th gear	41 : 38 = 1,079	41 : 38 = 1,079	37 : 41 = 0,902
	5th gear	35 : 32 = 1,094	35 : 32 = 1,094	32 : 35 = 0,914
	6th gear	35 : 38 = 0,921	35 : 38 = 0,921	31 : 41 = 0,756
	Reverse gear	33 : 13 x 22 : 14 = 3.989	33 : 13 x 22 : 14 = 3.989	33 : 13 x 22 : 14 = 3.989
i _{tot.} in the highest gear		2,888	2,888	2,300
Drive shaft flange		⇒ Electronic Catalogue of Original Parts		

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Automatic Gearbox DSG - 02E		02E "front-wheel drive"		
Gearbox	Identification characters	LQS	LQT	LTD
	Manufactured from through	11.08 10.09	11.08 10.09	11.09 05.10
Assignment	Engine	1.9 ltr./77 kW TDI PD	2.0 ltr./125 kW TDI CR	2.0 ltr./125 kW TDI CR
Ratio: Z2 : Z1	Final drive for 1st gear through 4th gear	70 : 16 = 4,375	70 : 17 = 4,118	70 : 17 = 4,118
	Final drive for 5th gear through 6th gear	70 : 21 = 3,333	70 : 23 = 3,043	70 : 23 = 3,043
Ratios	1st gear	45 : 13 = 3,462	45 : 13 = 3,462	45 : 13 = 3,462
	2nd gear	41 : 20 = 2,050	41 : 20 = 2,050	41 : 20 = 2,050
	3rd gear	39 : 30 = 1,300	39 : 30 = 1,300	39 : 30 = 1,300
	4th gear	37 : 41 = 0,902	37 : 41 = 0,902	37 : 41 = 0,902
	5th gear	32 : 35 = 0,914	32 : 35 = 0,914	32 : 35 = 0,914
	6th gear	31 : 41 = 0,756	31 : 41 = 0,756	31 : 41 = 0,756
	Reverse gear	33 : 13 x 22 : 14 = 3.989	33 : 13 x 22 : 14 = 3.989	33 : 13 x 22 : 14 = 3.989
i _{tot.} in the highest gear		2,520	2,300	2,300
Drive shaft flange		⇒ Electronic Catalogue of Original Parts		



Automatic Gearbox DSG - 02E		02E "front-wheel drive"		
Gearbox	Identification characters	LTL	LTE	MKJ
	Manufactured from through	11.09 05.10	11.09 05.10	11.09 05.10
Assignment	Engine	2.0 ltr./147 kW TFSI	2.0 ltr./100 kW TDI PD 2.0 ltr./103 kW TDI PD 2.0 ltr./103 kW TDI CR	1.9 ltr./77 kW TDI PD
Ratio: Z2 : Z1	Final drive for 1st gear through 4th gear	69 : 17 = 4,059	70 : 17 = 4,118	70 : 16 = 4,375
	Final drive for 5th gear through 6th gear	69 : 22 = 3,136	70 : 23 = 3,043	70 : 21 = 3,333
Ratios	1st gear	45 : 13 = 3,462	45 : 13 = 3,462	45 : 13 = 3,462
	2nd gear	43 : 20 = 2,15	41 : 20 = 2,050	41 : 20 = 2,050
	3rd gear	41 : 28 = 1,464	39 : 30 = 1,300	39 : 30 = 1,300
	4th gear	41 : 38 = 1,079	37 : 41 = 0,902	37 : 41 = 0,902
	5th gear	35 : 32 = 1,094	32 : 35 = 0,914	32 : 35 = 0,914
	6th gear	35 : 38 = 0,921	31 : 41 = 0,756	31 : 41 = 0,756
	Reverse gear	33 : 13 x 22 : 14 = 3,989	33 : 13 x 22 : 14 = 3,989	33 : 13 x 22 : 14 = 3,989
i _{tot.} in the highest gear		2,888	2,300	2,520
Drive shaft flange		⇒ Electronic Catalogue of Original Parts		

Automatic Gearbox DSG - 02E		02E "front-wheel drive"		
Gearbox	Identification characters	MMA	MFL	MLW
	Manufactured from through	06.10 10.10	06.10 10.10	06.10 10.10
Assignment	Engine	2.0 ltr./147 kW TFSI	2.0 ltr./103 kW TDI CR	1.9 ltr./77 kW TDI PD
Ratio: Z2 : Z1	Final drive for 1st gear through 4th gear	69 : 17 = 4,059	70 : 17 = 4,118	70 : 16 = 4,375
	Final drive for 5th gear through 6th gear	69 : 22 = 3,136	70 : 23 = 3,043	70 : 21 = 3,333
Ratios	1st gear	45 : 13 = 3,462	45 : 13 = 3,462	45 : 13 = 3,462
	2nd gear	43 : 20 = 2,150	41 : 20 = 2,050	41 : 20 = 2,050
	3rd gear	41 : 28 = 1,464	39 : 30 = 1,300	39 : 30 = 1,300
	4th gear	41 : 38 = 1,079	37 : 41 = 0,902	37 : 41 = 0,902
	5th gear	35 : 32 = 1,094	32 : 35 = 0,914	32 : 35 = 0,914
	6th gear	35 : 38 = 0,921	31 : 41 = 0,756	31 : 41 = 0,756
	Reverse gear	33 : 13 x 22 : 14 = 3,989	33 : 13 x 22 : 14 = 3,989	33 : 13 x 22 : 14 = 3,989
i _{tot.} in the highest gear		2,888	2,300	2,520



Automatic Gearbox DSG - 02E		02E "front-wheel drive"		
Gearbox	Identification characters	MMA	MFL	MLW
Drive shaft flange		⇒ Electronic Catalogue of Original Parts		

Automatic Gearbox DSG - 02E		02E "front-wheel drive"		
Gearbox	Identification characters	MFM	MSY	MSR
	Manufactured from through	06.10 10.10	11.10	11.10
Assignment	Engine	2.0 ltr./125 kW TDI CR	2.0 ltr./147 kW TFSI	1.9 ltr./77 kW TDI PD
Ratio: Z2 : Z1	Final drive for 1st gear through 4th gear	70 : 17 = 4,118	69 : 17 = 4,059	70 : 16 = 4,375
	Final drive for 5th gear through 6th gear	70 : 23 = 3,043	69 : 22 = 3,136	70 : 21 = 3,333
Ratios	1st gear	45 : 13 = 3,462	45 : 13 = 3,462	45 : 13 = 3,462
	2nd gear	41 : 20 = 2,050	43 : 20 = 2,150	41 : 20 = 2,050
	3rd gear	39 : 30 = 1,300	41 : 28 = 1,464	39 : 30 = 1,300
	4th gear	37 : 41 = 0,902	41 : 38 = 1,079	37 : 41 = 0,902
	5th gear	32 : 35 = 0,914	35 : 32 = 1,094	32 : 35 = 0,914
	6th gear	31 : 41 = 0,756	35 : 38 = 0,921	31 : 41 = 0,756
	Reverse gear	33 : 13 x 22 : 14 = 3,989	33 : 13 x 22 : 14 = 3,989	33 : 13 x 22 : 14 = 3,989
i _{tot.} in the highest gear		2,300	2,889	2,520
Drive shaft flange		⇒ Electronic Catalogue of Original Parts		

Automatic Gearbox DSG - 02E		02E "front-wheel drive"		
Gearbox	Identification characters	MSV	MSU	
	Manufactured from through	11.10	11.10	
Assignment	Engine	2.0 ltr./103 kW TDI CR	2.0 ltr./125 kW TDI CR	
Ratio: Z2 : Z1	Final drive for 1st gear through 4th gear	70 : 17 = 4,118	70 : 17 = 4,118	
	Final drive for 5th gear through 6th gear	70 : 23 = 3,043	70 : 23 = 3,043	
Ratios	1st gear	45 : 13 = 3,462	45 : 13 = 3,462	
	2nd gear	41 : 20 = 2,050	41 : 20 = 2,050	
	3rd gear	39 : 30 = 1,300	39 : 30 = 1,300	
	4th gear	37 : 41 = 0,902	37 : 41 = 0,902	
	5th gear	32 : 35 = 0,914	32 : 35 = 0,914	
	6th gear	31 : 41 = 0,756	31 : 41 = 0,756	



Automatic Gearbox DSG - 02E		02E "front-wheel drive"		
Gearbox	Identification characters	MSV	MSU	
	Reverse gear	$33 : 13 \times 22 : 14 = 3.989$	$33 : 13 \times 22 : 14 = 3.989$	
i _{tot.} in the highest gear		2,300	2,300	
Drive shaft flange		⇒ Electronic Catalogue of Original Parts		

Automatic Gearbox DSG - 02E		02E "four-wheel drive"		
Gearbox	Identification characters	MMJ	MUA	
	Manufactured from through	11.10 11.10	11.10	
Assignment	Engine	2.0 ltr./103 kW TDI CR	2.0 ltr./103 kW TDI CR	
Ratio: Z ₂ : Z ₁	Final drive for 1st gear through 4th gear	70 : 17 = 4,118	70 : 17 = 4,118	
	Final drive for 5th gear through 6th gear	70 : 23 = 3,043	70 : 23 = 3,043	
Ratios	1st gear	45 : 13 = 3,462	45 : 13 = 3,462	
	2nd gear	41 : 20 = 2,050	41 : 20 = 2,050	
	3rd gear	39 : 30 = 1,300	39 : 30 = 1,300	
	4th gear	37 : 41 = 0,902	37 : 41 = 0,902	
	5th gear	32 : 35 = 0,914	32 : 35 = 0,914	
	6th gear	31 : 41 = 0,756	31 : 41 = 0,756	
	Reverse gear	$33 : 13 \times 22 : 14 = 3.989$	$33 : 13 \times 22 : 14 = 3.989$	
i _{tot.} in the highest gear		2,300	2,300	
Drive shaft flange		⇒ Electronic Catalogue of Original Parts		

Rear final drive		OBR
Identification characters		MMK
Manu- factured	from through	11.10
Assign- ment	Engine	2.0 ltr./103 kW TDI CR
Ratio	Z ₂ : Z ₁	27 : 17 = 1,588
Capacity final drive		0.925 litres
Specification		⇒ Electronic Catalogue of Original Parts
Capacity Haldex coupling		0.850 litres
Changing capacity Haldex coupling		0.720 litres
Specification		⇒ Electronic Catalogue of Original Parts
Change interval		⇒ Maintenance ; Octavia II
Drive shaft flange Ø		100 mm
Assignment, identification characters gear- box 02E		MMJ, MUA



1.4 Filling capacity

Content - gearbox

Filling capacity	Automatic Gearbox DSG - 02E
New filling	7.2 ltr.
Change in customer service	approx. 5.2 ltr.
Change interval	⇒ Maintenance ; Octavia II
Lubricant	Gear oil for automatic gearbox DSG - 02E part no. ⇒ Electronic Catalogue of Original Parts

Only gear oil must be used, which is indicated as spare part for "automatic gearbox DSG - 02E". Other oils can lead to functional problems or to failure of the gearbox.

Can size and part number ⇒ Electronic Catalogue of Original Parts .

Only this gear oil must be used for the automatic gearbox DSG - 02E.

When changing the gear oil, the gearbox oil filter must not always be replaced. Therefore comply with the instructions, when the gearbox oil filter must be replaced and when not ⇒ [page 12](#) .

Inspect or change the gear oil ⇒ [page 113](#) .

Capacity angle gearbox

Filling capacity	Angle gearbox
New filling	0.9 ltr.
Top-up	Filled for life, no top-up
Lubricant	Axle oil part number ⇒ Electronic Catalogue of Original Parts

Only axle oil must be used which is indicated as a spare part for the angle gearbox. Other oils can lead to functional problems or to failure of the angle gearbox.

Can size and part number ⇒ Electronic Catalogue of Original Parts .

Inspecting oil level in the angle gearbox ⇒ [page 124](#) .



2 Notes on 6-speed gearbox DSG - 02E

Information on structure and function of the gearbox ⇒ Self-study programme No. 56 ; automatic gearbox DSG - 02E .

2.1 Notes on tow starting and towing



Caution

When towing the vehicle, the selector lever must be in position "N" and it must not be towed further than 50 km and faster than 50 km/h, otherwise the gearbox will be destroyed.



Note

It is not possible to tow start an engine, e.g. if the battery is weak or the starter does not operate.

2.2 General repair information

Scrupulous care and cleanliness as well as the proper tools are essential requirements for carrying out proper and successful gearbox repairs. Obviously, the generally valid basic safety rules apply to repair work.

A number of generally valid notes for individual repair operations - which are otherwise listed several times at numerous points in the workshop manual - are summarized here. They apply to this workshop manual.

Special tools

List of the special tools used in the workshop manual is detailed in the individual repair descriptions.

Overview of the components of the gearbox



1 - Filter ➔ [page 113](#)

- ❑ Instructions, when the gearbox oil filter must be replaced and when not ➔ [page 14](#)

2 - Gearbox input r.p.m. sender -G182- and temperature sender for clutch -G509- ➔ [page 34](#)

3 - Gearbox oil pump ➔ [page 59](#)

4 - Cover for gearbox oil pump ➔ [page 59](#)

5 - Drain plug ➔ [page 113](#)

- ❑ as of 01.05 the screw is not available. Oil can be drained Pos. 6 via check screw

6 - Check screw ➔ [page 113](#)

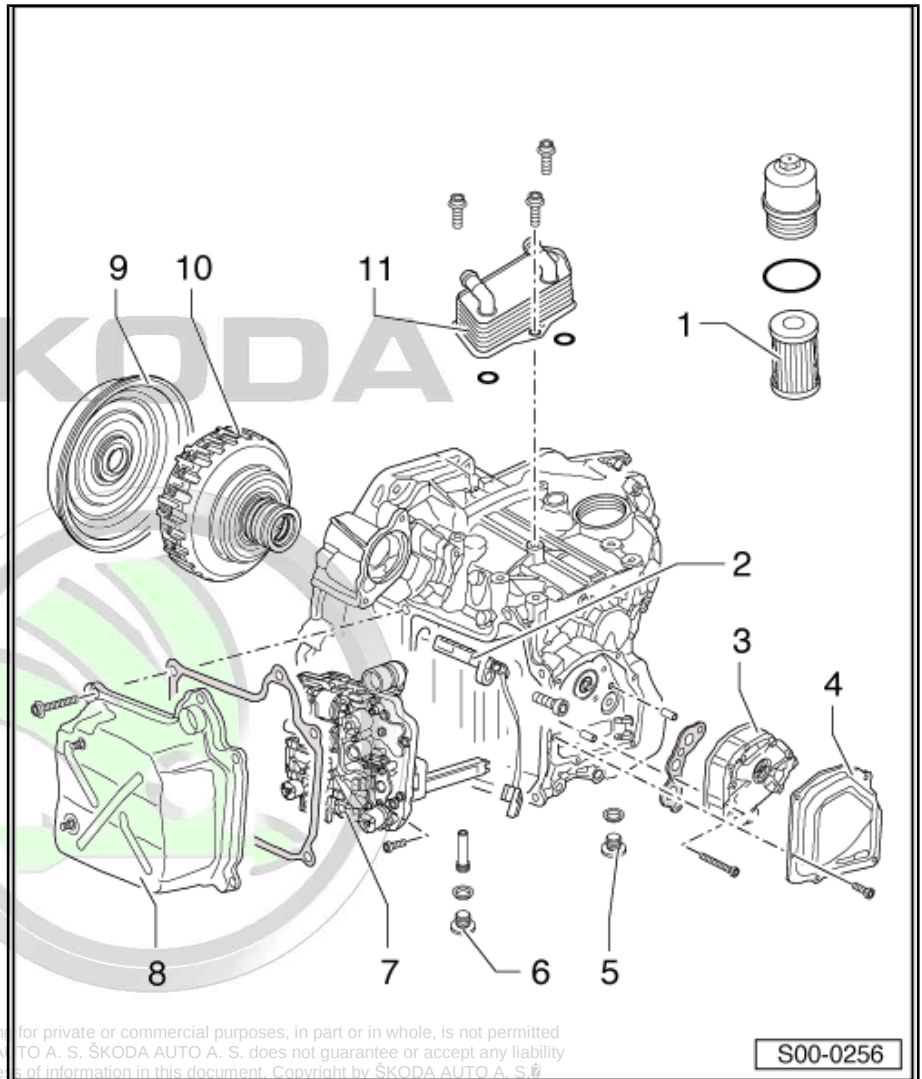
7 - Mechatronics for double clutch gearbox DSG -J743- ➔ [page 34](#)

8 - Oil pan ➔ [page 45](#)

9 - Cover (cover plate) for clutch ➔ [page 22](#)

10 - Clutch ➔ [page 20](#)

11 - Gearbox oil cooler ➔ [page 56](#)



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Gearbox

Always make sure that no dirt gets into the gearbox when the gearbox is "opened". Penetrated dirt, especially for "exposed" mechatronics for double clutch gearbox -J743- or oil pump, can lead to the failure of the gearbox.

- ◆ If the covers are unscrewed from the gearbox or the gearbox is without oil, do not let the engine run and do not tow the vehicle.
- ◆ Thoroughly clean the connection points and their surroundings and then release.
- ◆ When installing the gearbox, ensure the dowel sleeves are correctly located between the engine and gearbox.
- ◆ Place removed parts on a clean surface and cover, in order to avoid contamination. Do not use fluffy cloths!
- ◆ Only install clean parts: Take out original parts from their wrapping immediately before installing.
- ◆ Carefully cover or close opened components if the repair is not completed immediately.
- ◆ If the gearbox is replaced, the oil level must be checked ➔ [page 113](#).



Mechatronics

- ◆ The mechatronics is allocated according to the gearbox code letters ⇒ electronic catalogue of original parts .

Gaskets, seals

- ◆ After removing gaskets, examine the contact surface in the housing or on shafts for burrs or damage, and correct if necessary.
- ◆ Before a radial shaft seal is installed, coat the sealing lips and the space in-between with sealing grease - G 052 128 A1- and the outer circumference with gear oil for double clutch gearbox.
- ◆ The open side of the sealing rings is turned towards the oil.
- ◆ Always replace O-rings, gasket rings and gaskets.
- ◆ Before inserting the O-rings coat with DSG oil to prevent the rings being damaged during installation.
- ◆ Only use DSG oil in the oil area. Other types of lubricant will cause the gearbox hydraulic control system to malfunction.

- ◆ After installing, check oil level ⇒ [page 113](#)

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Gear oil and filter

The oil quality influences in a decisive way the function of the gearbox.

Tasks of the oil - the oil does not only "lubricate" the gearbox.

For your information: oil, which on the one hand transports minor abrasion particles from the differential gear to both filters, also ensures on the other hand that the grease film on the tooth flanks of the differential gear is not damaged and at the same time, by means of exerting pressure, it enables the operating switches of the gears to carry out their function. In addition, it seals the pistons and helps the synchronizer rings when shifting gears, it collects and transports heat energy, minimises noise - the tasks of the oil are very different. In order to maintain this performance, the oil as well as the oil filter of the gearbox must be changed during maintenance (instructions, when the gearbox oil filter must be replaced and when not ⇒ [page 14](#)).



Caution

Be careful when handling oil. Dispose of drained oil appropriately.

- ◆ Shake oil bottle before opening.
- ◆ Do not mix any additives in the oil, also do not fill in other oil.
- ◆ Drained oil must not be refilled.
- ◆ Only use DSG oil ⇒ Electronic catalogue of original parts .
- ◆ The oil level in the gearbox and in the final drive must be checked and topped up jointly ⇒ [page 113](#) .

Replace oil filter - "yes or no"

The filter must be replaced, if:

- ◆ the extended service interval of 60 000 km was achieved.
- ◆ Coolant has got into the oil.
- ◆ Metallic swarfs were found in the oil.



- ◆ the clutch is blown or mechanically damaged.
Do not replace; if:
- ◆ the oil cooler was replaced and no coolant has got into the oil.
- ◆ the gasket ring of the gearshift shaft was replaced.
- ◆ the gasket ring for flange or rigid shaft was replaced.
- ◆ the leaky cover of the mechatronics, the clutch or the oil pump was replaced.
- ◆ the gearbox input r.p.m. sender -G182- and the temperature sender for clutch -G509 - was replaced.

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Oil drain plug and check screw

Gearbox with drain plug -A- and check screw -B- installed up to 12.04.

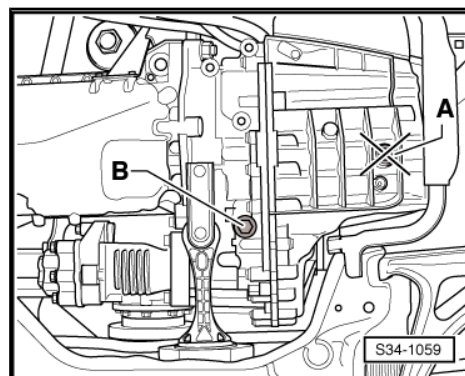
The gearboxes installed as of 01.05 have only one check screw -B-.

Oil can only be checked and replaced via the check screw -B-.



Note

A plastic overflow tube with an 8 mm hexagon socket and a tightening torque of 3 Nm is located behind this screw. The length of the overflow tube determines the oil level in the gearbox, when replacing assign via part number → *Electronic Catalogue of Original Parts*.



Locking elements

- ◆ Do not over-extend the circlips, if necessary replace.
- ◆ Circlips must be positioned in the base of the groove.

Screws, nuts

- ◆ Slacken and tighten screws or fixing nuts of covers and housings diagonally across in stages.
- ◆ Tightening torques apply for non-oiled nuts and bolts.
- ◆ Clean the thread of the screws that are inserted with a locking agent with a wire brush. Insert bolts with locking agent -AMV 185 101 A1-.
- ◆ Clean all threaded holes into which self-locking bolts are inserted, using a thread tap to remove locking agent residues. Otherwise there is a risk that the bolts will shear at the next disassembling.
- ◆ Always replace the self-locking nuts and screws.

Electrical components

If you touch objects out of metal, it can happen that this can lead to an electrostatic discharge. The reason for this is the electrostatic charge of the human body. This electrostatic charge can lead to operational problems when touching the electrical components of the gearbox and the shift mechanism.

- Touch an earthed object - e.g. a water pipe or a lift platform - before working on the electrical components.
- Do not grab directly at the plug contacts.

Targeted fault-finding

Before repairing the gearbox try to determine the origin of the damage as accurately as possible using "targeted fault finding".

The "targeted fault finding" is performed with the → Vehicle diagnosis, testing and information system VAS 5051.

Rules of cleanliness

- ◆ Thoroughly clean the connection points and their surroundings before releasing.
- ◆ Only install clean parts: Remove spare parts from their wrapping immediately before installing.
- ◆ Always replace the paper gaskets. Completely remove old gasket and thoroughly clean sealing surfaces.



- ◆ Place removed parts on a clean surface and cover, so that they are not clogged up with dirt. Use foil and paper. Do not use fuzzy cloths!
- ◆ Carefully cover or close opened components if the repair is not completed immediately.

2.3 Safety function of the gearbox control unit

If a component in the gearbox fails, the control unit activates a backup function. Because the gearbox must be well protected, 4 error responses can be distinguished:

- 1 - If the error is minor, the continuation of the journey is made possible due to a replacement program and the driving safety is ensured. This condition is not indicated to the driver with the selector lever position indicator -Y6-. The display shows the selector lever position as usual. A change in the driveability can hardly be noticed.
- 2 - The individual selector lever positions flash in the selector lever position indicator -Y6-. Thereby the driver is notified that this driving speed cannot be selected at the relevant moment. Example: Reversing, selector lever in position "R" and the vehicle moves backwards. If "D" is selected at this moment, the letter "D" begins to flash in the selector lever position indicator -Y6-. In this case, the control unit prevents that the 1st gear is engaged so that the gearbox is not damaged. The gear is only engaged if the vehicle stops. Be careful when testing the above mentioned!
- 3 - The selector lever position indicator -Y6- lights up completely and flashes. The selector lever position can be recognised if it is emphasized. Example: The gearbox oil temperature is too high. The reason for this is among others: The trailer in operation is heavily loaded, various attachments on the front part of the vehicle "air shortage for the cooling systems".
- 4 - The selector lever position cannot be recognised, the selector lever position indicator -Y6- flashes, a change in the driveability and gearshift are noticeable and it is not possible to drive the vehicle backwards. There is a "major fault" on the gearbox, one part of the gearbox is switched off, a gearbox repair is necessary.

2.4 Explanation of the terms used in this workshop manual

The following explanations are related to automatic Gearbox DSG only. They do not claim to be valid in all cases.

Databus

Data transfer. Before transmission, electrical signals are put into certain forms (BUS). Further information on this can be found in
⇒ Self-study programme No. 24 ; Škoda OCTAVIA; CAN databus; Structure and Function .

DSG

Automatic gearbox DSG. Further information can be found in
⇒ Self-study programme No. 56 ; Automatic gearbox DSG - 02E .

Self-diagnosis

The capability of the control unit to:

recognize faults,
react to faults,



store faults,

Determine measured values and to display them in the measured value block.

Gearbox input r.p.m. sender -G182- and temperature sender for clutch -G509-

The sender determines the speed at the clutch and sends it to the mechatronics.

Gearbox

The automatic gearbox DSG is also designated as double clutch gearbox. The engine torque is initiated in the gearbox via the two-mass flywheel. The gearbox is built like a 6-speed manual gearbox. Due to the alternative hydraulic activation of the two multi-plate clutches, it is operated like an automatic gearbox, i.e. the gears are automatically or manually engaged via the Tiptronic mode. A clutch pedal is not present. Further information can be found in ⇒ Self-study programme No. 56 ; Automatic gearbox DSG - 02E .

Gear oil

The oil level in the gearbox and in the final drive must be checked and topped up jointly.

- ◆ Only spare part oil should be used for the automatic gearbox DSG - 02E. Other oils can lead to functional problems or to failure of the gearbox.

Kick-down switch -F8-

The kick-down switch is no longer available. The diesel direct injection system control unit -J248- takes over the function of the switch.

If the accelerator pedal is pressed down to the stop, the transmission shifts down and turns faster.

Selector lever lock solenoid -N110-

The selector lever lock solenoid is integrated into the shift mechanism. Prevents the (unintentional) shifting of the selector lever from positions "P" and "N", as long as the brake pedal is not pressed.

Emergency running mode

If individual or several components or sensors fail, the gearbox control unit activates the corresponding backup functions or emergency running programmes. This ensures a nondestructive operation of the gearbox with the respective effect on the function and quality of the shifting. Further information can be found in ⇒ Self-study programme No. 56 ; Automatic gearbox DSG - 02E .

The emergency running mode is a "status of the control unit", which, if a fault of the control unit is detected, maintains driving safety, protects the gearbox from damage, and ensures that vehicle running will be affected as little as possible.

Parking position

When the vehicle is parked, the selector lever mechanically locks the parking gear thereby preventing the vehicle from moving off unintentionally.

Shift mechanism

The selector lever position is no longer communicated mechanically, as for the other automatic gearboxes, via the selector lever control cable and the multi-function switch (sensor for driving position) to the gearbox. The selector lever positions or shifting are transmitted via a separate control unit in the shift mechanism via the CAN databus to the mechatronics. The shifting is then per-

formed without control cable. Only in the selector lever position "P" is the parking position engaged mechanically via the selector lever control cable.

Gear-change points change on upward and downward gradients

On upward or downward gradients, gear-changes are selected automatically by additional gear-change mapping, according to accelerator position and driving speed.

- On steep gradients, gear-change mapping is adapted to engine power output.
- On steep gradients, gear-change mapping is adapted to the braking effect of the engine.
- By directly selecting a gear via the Tiptronic, also with a concrete gear, e.g. for a slope during trailer operation, the motor braking effect is also used.

Tiptronic

By means of an extra selector lever gate to the right of the normal selector lever gate, the selector lever can be tipped towards the Plus sign (+) to change up the gears manually and towards the Minus sign (-) to change down the gears manually.

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30 – Clutch

1 Components of the clutch

Notes

Clutches of the automatic gearboxes DSG always contain at least two plate packages, therefore one speaks here of a "double clutch".

The outer, larger plate package is called "K1" (clutch 1). The reverse gear and the gears "1", "3" and "5" are shifted via the "K1".

The gears "2", "4" and "6" are shifted via the inner, smaller plate package "K2" (clutch 2).

Assemblies of the clutch require special care, because all components were balanced with each other during manufacturing. If the parts are turned to each other during assembly, this can result in imbalances which affect the shifting comfort.

So that there is no risk of the parts turning opposite each other, it is shown how the clutch is assembled and installed in the gearbox housing ⇒ [page 20](#).

1.1 Summary of components



Note

- ◆ *If parts of the clutch slipped out or the plate supports were raised, then the large - and if necessary also the small - plate support can be inserted by hand with slight rotary movement into all interior plates.*
- ◆ *In particular the clutch cover must always be installed in the same position, as it was the case when "delivering" the new clutch ⇒ [page 22](#).*

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1 - Circlip

- ☐ Determine new thickness ➔ [page 30](#)

2 - Large plate support

- ☐ do not remove



Caution

Try to avoid removing or raising the plate support. Not even a little bit! The plates can turn.

3 - Housing of the double clutch

- ☐ with mounted clutch "K2"

4 - Sealing ring

- ☐ 4 pieces

5 - Outer plate

- ☐ 4 pieces

6 - Inner plate

- ☐ 4 pieces

7 - Thrust washer

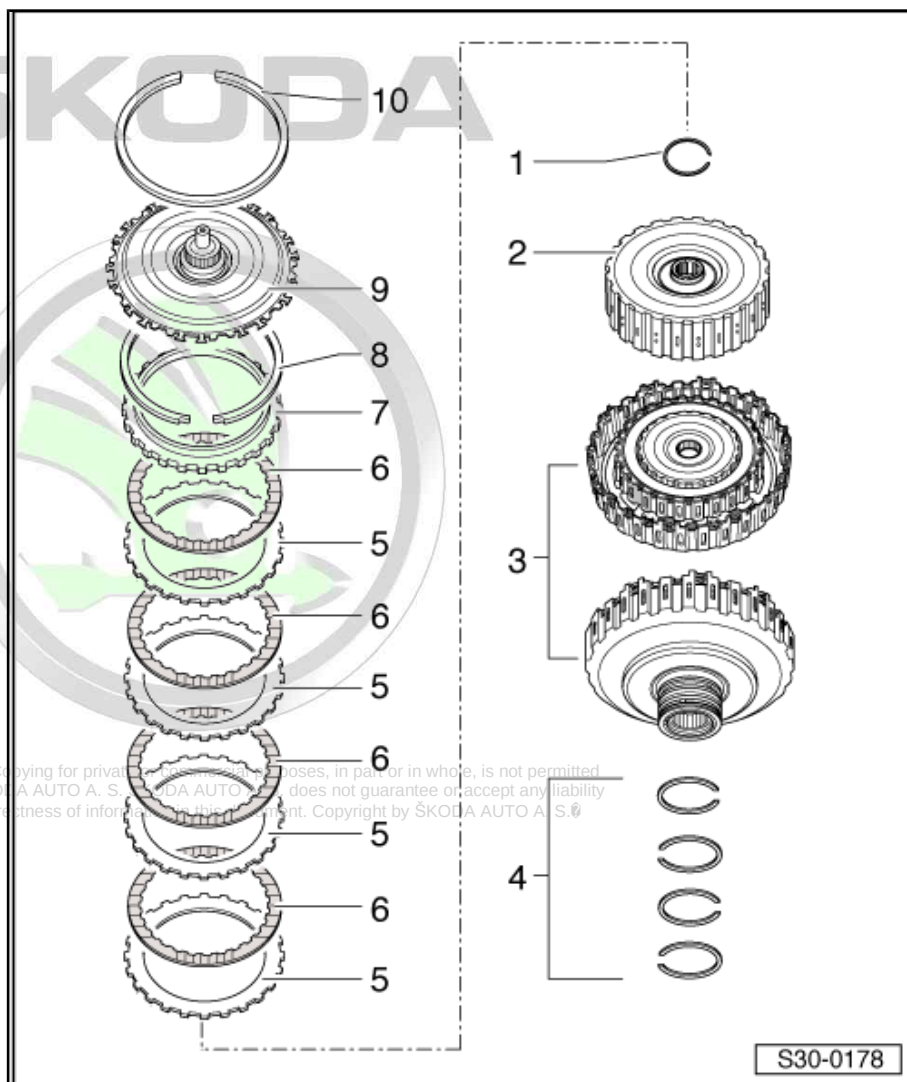
8 - Circlip

- ☐ if the circlip was removed in order to newly insert the plates, it is replaced by a new ring with the same thickness

9 - Clutch cover

10 - Circlip

- ☐ always replace ➔ Electronic Catalogue of Original Parts
- ☐ do not install corrugated circlips



2 Removing and installing clutch

The cover (cover plate) for the clutch must be removed, before the clutch is removed ⇒ [page 22](#) .

2.1 Removing cover (cover plate) for clutch



Note

- ◆ The cover is held in its position by a circlip. After the circlip is removed, the cover can be lifted from its position.
- ◆ Cover and circlip must always be replaced.
- ◆ Never install new covers using a hammer and never oil the middle gasket or touch it with the hand!

The gearbox must be removed before carrying out work on the cover.

- Remove the gearbox:
Vehicles with front-wheel drive ⇒ [page 86](#) .
Vehicles with four-wheel drive ⇒ [page 95](#) .
- Attach gearbox to assembly stand ⇒ [page 112](#) .

Gearbox with drain plug -arrow A- and check screw -arrow B- installed up to 12.04.

The gearboxes installed as of 01.05 have only one check screw -arrow B-.

Oil can only be drained via check screw -arrow B-.

- Unscrew check screw -arrow B- close to the pendulum support.



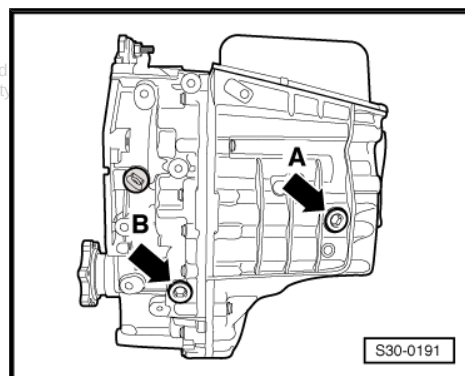
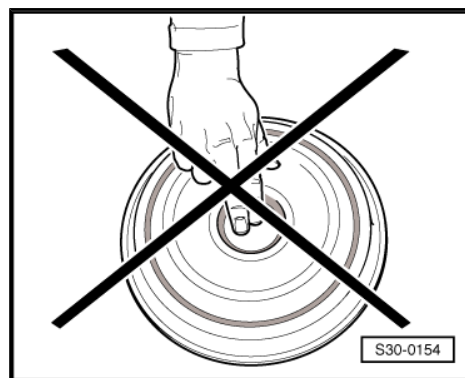
Note

A plastic overflow tube with an 8 mm hexagon socket and a tightening torque of 3 Nm is located behind this screw. The length of the overflow tube determines the oil level in the gearbox, when replacing the tube assign via part number ⇒ *Electronic Catalogue of Original Parts*

- Remove overflow tube.

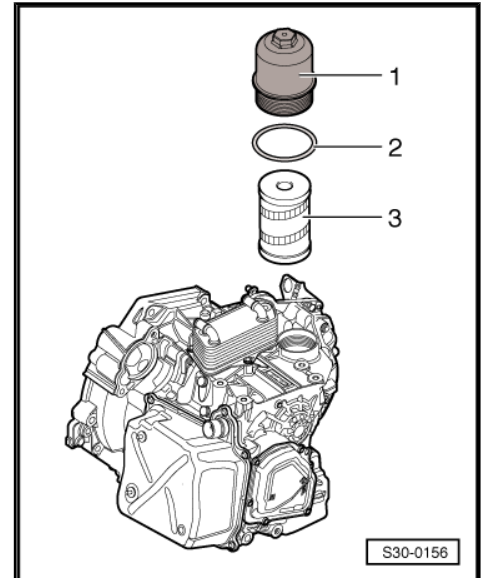
Approx. 5.0 ltr of oil flows out. Furthermore, the catch pan remains under the gearbox.

- Screw in overflow tube and tighten to tightening torque ⇒ [page 38](#) .



- Unscrew oil filter housing -1- from gearbox.
- Before removing, the oil filter must be slightly inclined.
So that the oil can flow out of the oil filter back into the gearbox.
- Always replace O-rings -2-.
- Remove filter -3-.
- Moisten new O-ring -2- with gear oil.

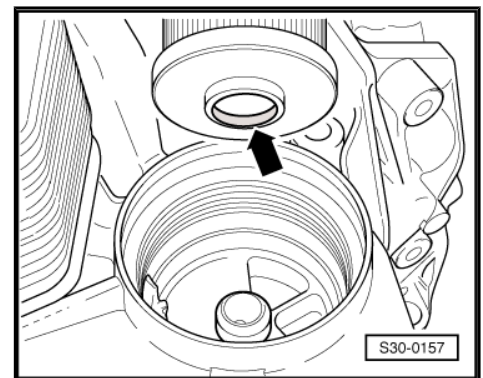
When changing the gear oil, the gearbox oil filter must not always be replaced. Therefore comply with the instructions, when the gearbox oil filter must be replaced and when not ⇒ [page 12](#) .



- Moisten the O-ring in the intake collar -arrow- of the new oil filter with gear oil.
- Insert new oil filter with the intake collar -arrow- downwards and tighten the filter housing to tightening torque ⇒ [page 38](#) .
- After the repair, top up with oil ⇒ [page 113](#) but do not change the filter again.
- Remove circlip from cover.

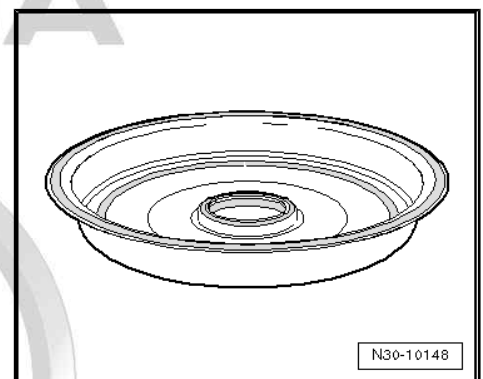
The cover can be lifted out with a screwdriver.

Only install "new" cover ⇒ [page 23](#) .



2.2 Installing cover (cover plate) for clutch

There are two types of clutch covers (cover plates).



- ◆ Covers which are delivered without a bush ⇒ [page 24](#) .
- ◆ Covers which are delivered with a white bush ⇒ [page 26](#) .

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2.2.1 Clutch cover without bush



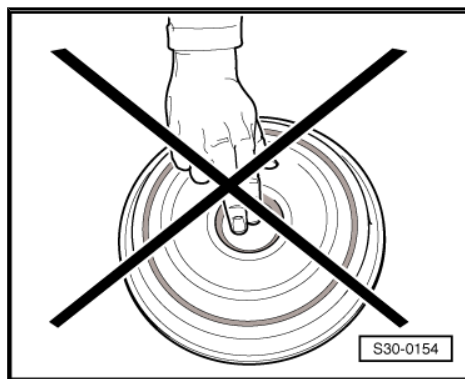
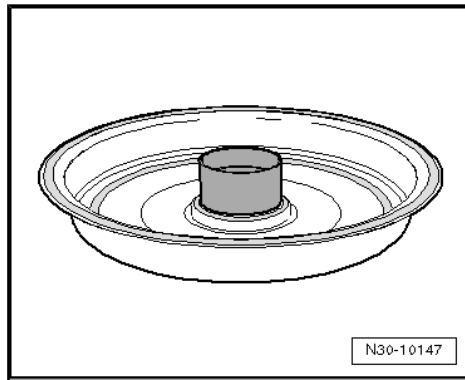
Note

- ◆ Cover and circlip must always be replaced ⇒ *Electronic Catalogue of Original Parts* .
- ◆ Never install new covers using a hammer and never oil the middle gasket or touch it with the hand!

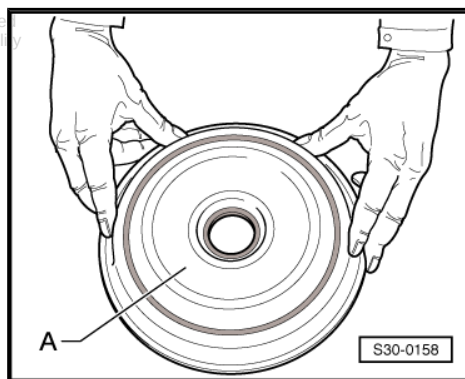


Caution

Never grip into the centre hole on new covers. The cover must not be touched and oiled there or come into contact with other materials. This could result in a leakage.



- Only take the cover -A- in the hand as shown in the illustration!



Special tools and workshop equipment required

- ◆ Clean the assembly sleeve -T10302- before use, do not use any assembly sleeves with scratches.

The new cover must be free from oil and dry in the area of the middle gasket!

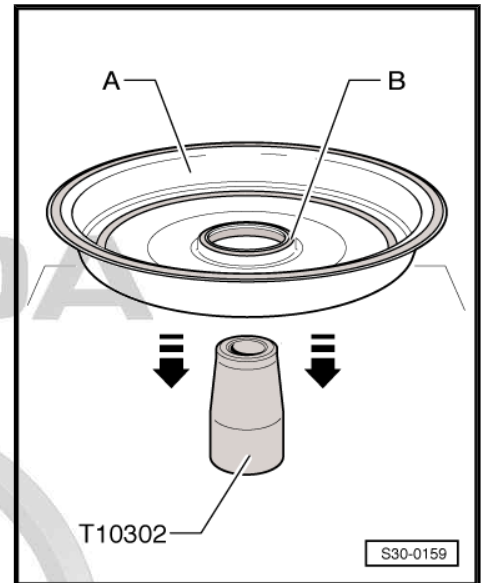
- If required, clean the shaft end of the clutch cover of the gearbox.

Only the gasket on the outer edge must be moistened with DSG oil.

- Position the assembly sleeve -T10302 - on an even surface.

The middle gasket -B- of the new cover -A- must now be “deformed”:

- Guide the cover horizontally and uniformly via the entire assembly sleeve -T10302-. For this step the sealing lip is put into the installation position.
- Remove the assembly sleeve -T10302- from the cover upwards and fit the assembly sleeve onto the shaft end of the clutch cover of the gearbox.

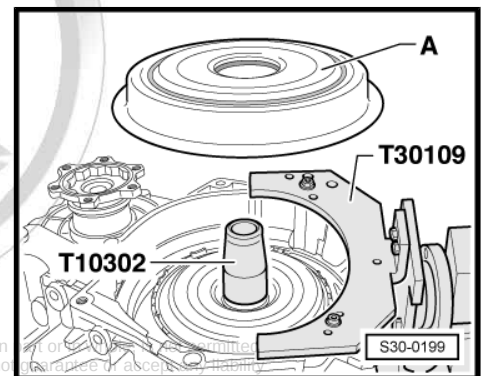


- Guide the cover -A- via the assembly sleeve -T10302- and uniformly press it onto its position.



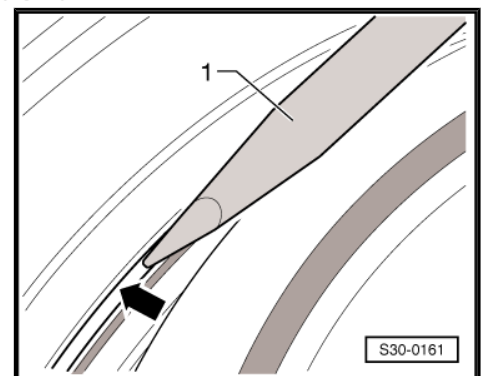
Caution

Handle with care. Any type of blows - even the slightest one - on the cover can easily lead to leaks.



It is possible to carefully lever the cover with a screwdriver -1- in its position -arrow-, until the “new” circlip can be installed.

- Install “new” circlip.



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2.2.2 Clutch cover with bush



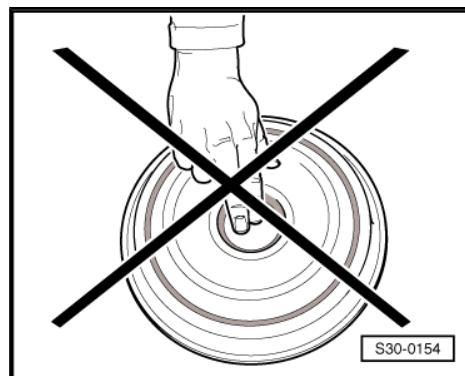
Note

- ◆ Cover and circlip must always be replaced ⇒ *Electronic Catalogue of Original Parts*.
- ◆ Never install new covers using a hammer and never oil the middle gasket or touch it with the hand!



Caution

Never grip into the centre hole on new covers. The cover must not be touched and oiled there or come into contact with other materials. This could result in a leakage.



Do not remove the bush!

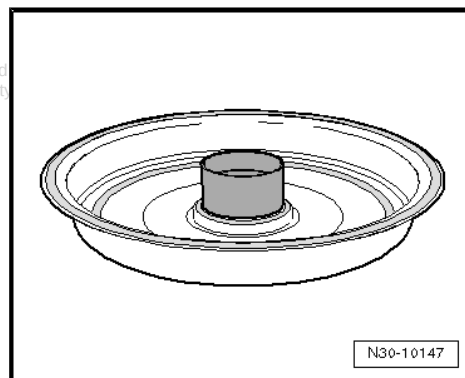
The new cover must be free from oil and dry in the area of the middle gasket!

- If required, clean the shaft end of the clutch cover of the gearbox.

Stickers must not be affixed to the inside of the clutch cover.

- If this is the case, please remove them carefully!

Only the gasket on the outer edge must be moistened with DSG oil.

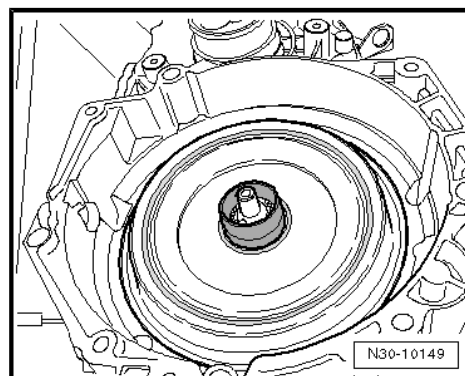


- Insert clutch cover with bush.



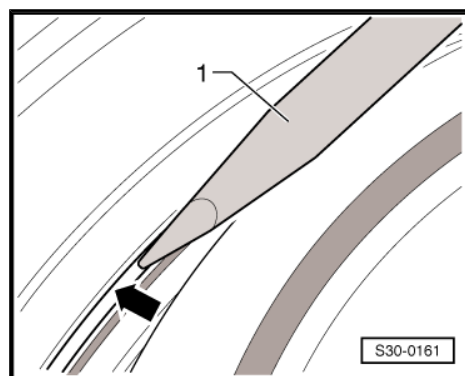
Caution

Handle with care. Any type of blows - even the slightest one - on the cover can easily lead to leaks.

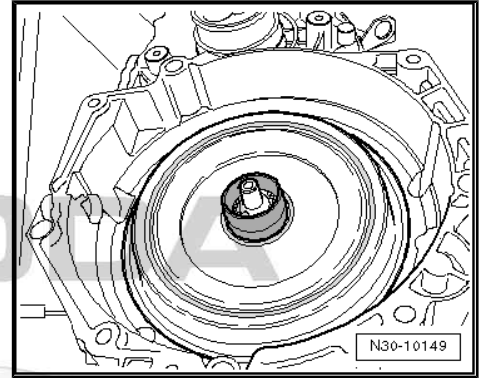


It is possible to carefully lever the cover with a screwdriver -1- in its position -arrow-, until the "new" circlip can be installed.

- Install "new" circlip.



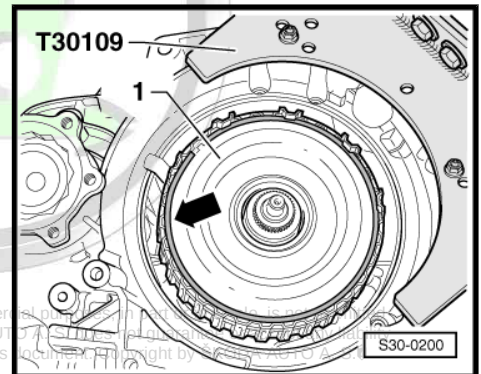
- Only remove the bush after installing the circlip.



2.3 Removing clutch

In order to remove and install the clutch, the gearbox must be tightened securely in the vertical position at the assembly stand ➔ [page 112](#).

- Remove clutch cover ➔ [page 22](#).
- Remove circlip -arrow- of clutch cover -1-.
- Take clutch cover off the clutch.



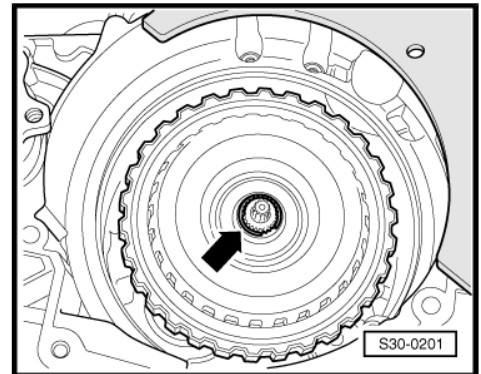
- Removing the circlip -arrow-.

When installing at a later stage, this circlip -arrow- must be measured again and replaced ➔ [page 30](#).

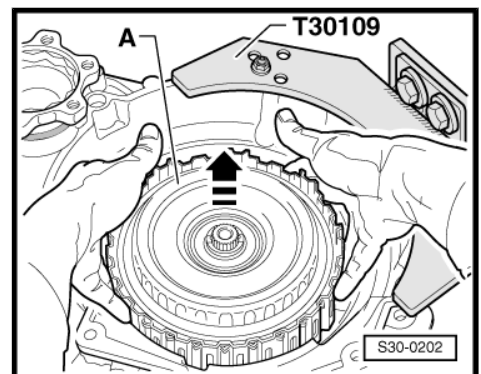


Note

- ◆ *Carefully remove the clutch. Make sure that the plate support or any other parts of the clutch do not fall out, therefore never turn the clutch!*
- ◆ *If this should occur, the components can be mounted again according to the overview of the plate clutch ➔ [page 20](#).*



- Remove the complete clutch -A- in -direction of arrow-.

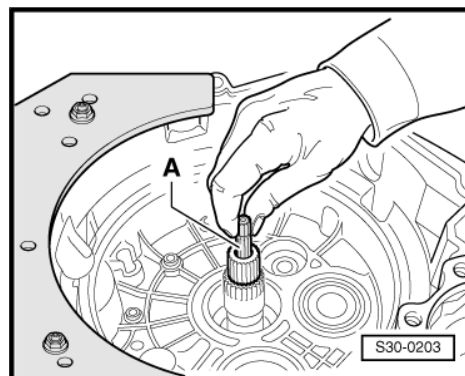


- Pull out drive shaft -A- of gearbox oil pump.



Note

The drive shaft of the gearbox oil pump is inserted only after the installation of the new clutch. Place down the shaft until then.



2.4 Preparing the installation of the clutch

Clutch as spare part

1 - Clutch

- ❑ The clutch cover of a new clutch is not secured with a circlip Pos. 5. It sits a little "tight" in the clutch. This should prevent that parts of the clutch fall out when transporting. It can be carefully removed.

2 - Ten circlips

- ❑ the rings have different thicknesses, they are classified in 0.1 mm jumps
- ❑ to this end comply with the instructions in [⇒ page 30](#)

3 - Cover (cover plate) for clutch

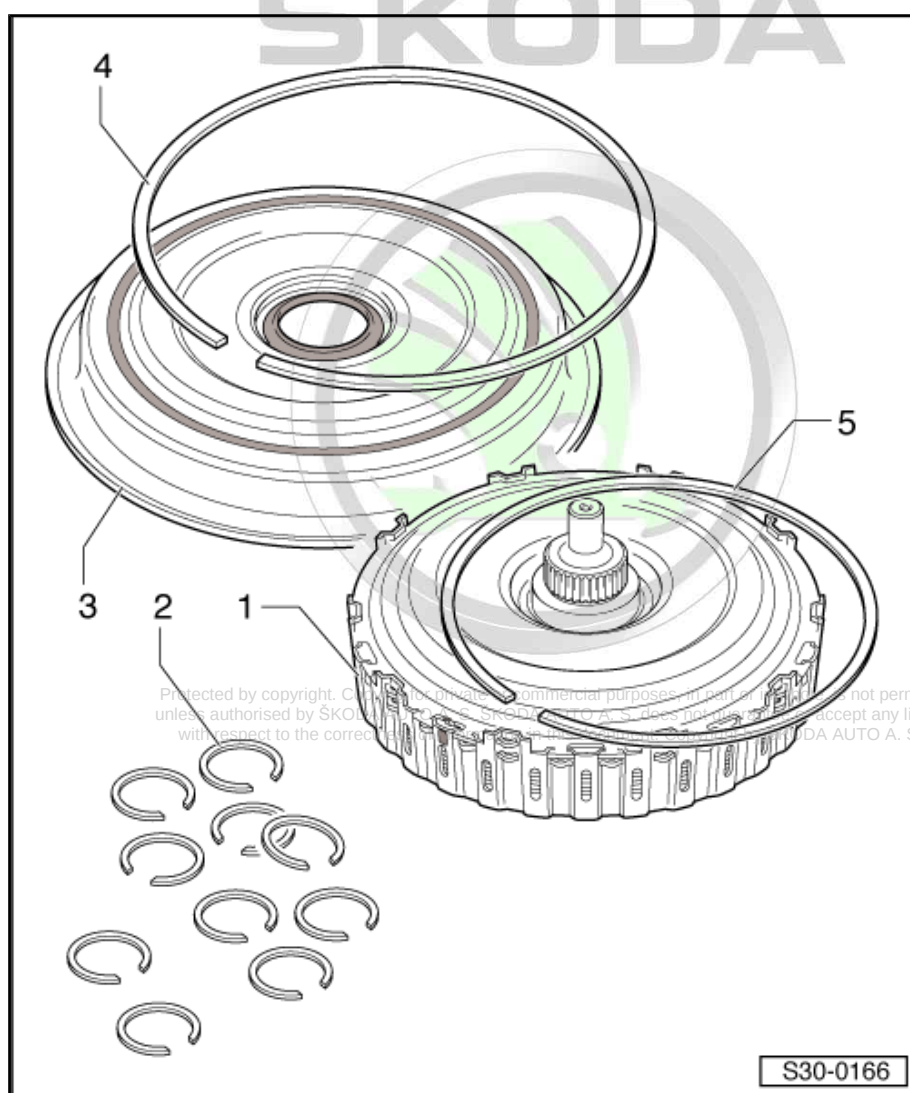
- ❑ make sure that the inner sealing lip is not damaged [⇒ page 23](#)
- ❑ in order to protect the sealing lip, a bush has already been inserted at the manufacturer; please leave this bush in the cover

4 - Circlip

- ❑ for cover (cover plate)

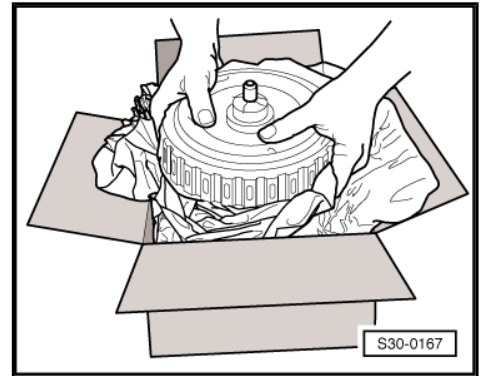
5 - Circlip

- ❑ for clutch cover
- ❑ do not install corrugated circlips
- ❑ always replace ⇒ Electronic Catalogue of Original Parts



- Already when taking the clutch out of the package press on the clutch cover.

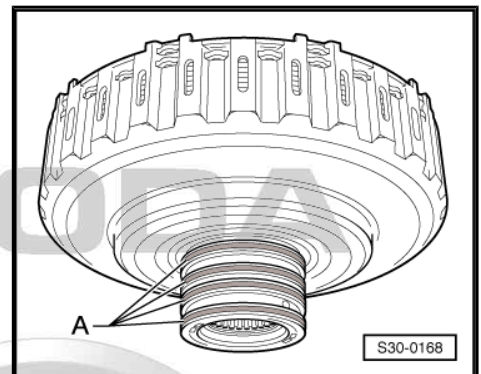
This should prevent that the clutch cover and the plate support located underneath slip out of the inner plates.



- Pay attention to the correct fit of the four piston rings -A-.

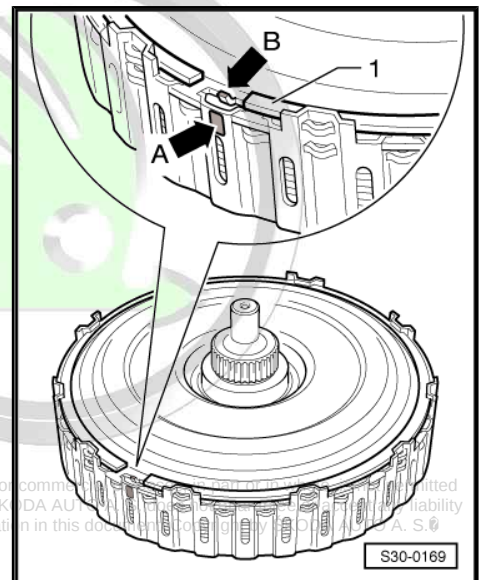
Note

- ◆ *The ring joints must not be positioned "above one another".*
- ◆ *Slowly turn the rings once, they must operate freely and must not clamp.*



Important! Location of the clutch cover on the clutch.

- Before removing the clutch cover, check if a marking is located on the clutch -arrow A-.
- If no marking is present, please make a colour coding. At a later stage the "peg" of the clutch cover -arrow B- must be placed again onto this marked point -arrow A-.
- In case it is installed on a new clutch, remove the circlip -1-.



- Carefully remove the clutch cover from the clutch -arrows- and place it to the side.

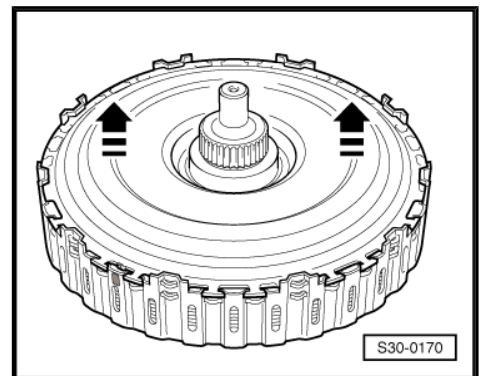


Caution

Try to avoid removing or raising the plate support. Not even a little bit! The plates can turn.

Lay aside the clutch in such a way that it cannot fall.

Thus the clutch is prepared for installation ➔ [page 30](#) .



2.5 Installing and adjusting the clutch



Caution

Try to avoid removing or raising the plate support. Not even a little bit! The plates can turn.

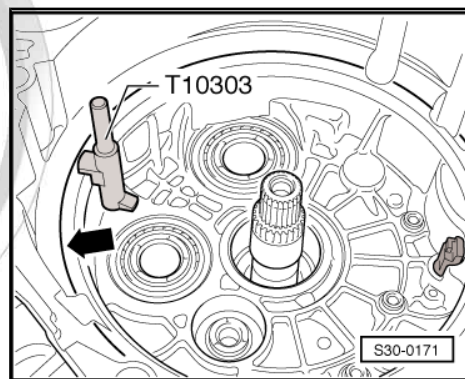


Note

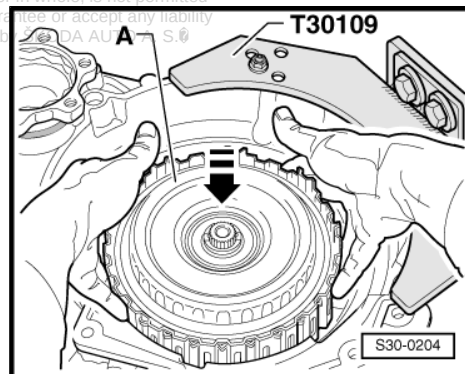
- ◆ The gearbox must be turned vertically in the assembly stand and the opening for the clutch must point upwards. Only in this way is it possible later on for the setting of the axial play of the clutch to be error-free.
- ◆ It is important that the gearbox is clamped firmly in the assembly stand -MP 9-101- ➔ [page 112](#), it must not be turned.
- ◆ In the clutch the large plate support must be inserted in all plates, it must not have slipped out of the lowest plate.
- ◆ The drive shaft of the gearbox oil pump is removed.
- ◆ Do not install corrugated circlips.

Special tools and workshop equipment required

- ◆ Retaining bolt -T10303-
- ◆ Universal dial gauge holder -MP3-447 (VW 387)-
- ◆ Dial gauge
- First put the retaining bolt -T10303- on the seat -arrow- of the cover (cover plate).



- Then carefully insert the clutch -A- in -direction of arrow-; do not let it fall in.



The retaining bolt -T10303- must be held at the same time by a second mechanic.

The retaining bolt -T10303- remains there, until the clutch cover is installed.

- Determine from all supplied circlips the circlip with a thickness -arrow- of 2 mm and install it temporarily.

Before this circlip is removed again, two measurements must be carried out beforehand.

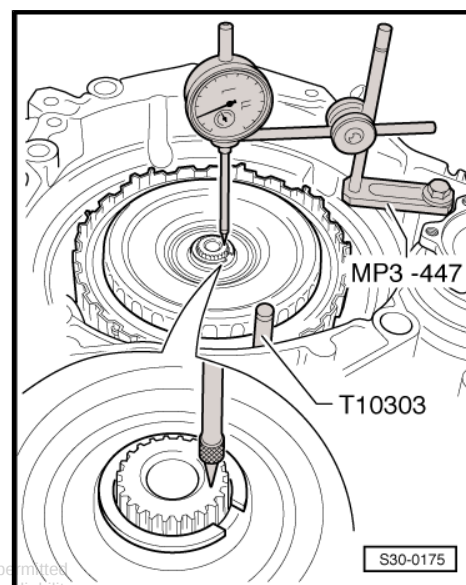
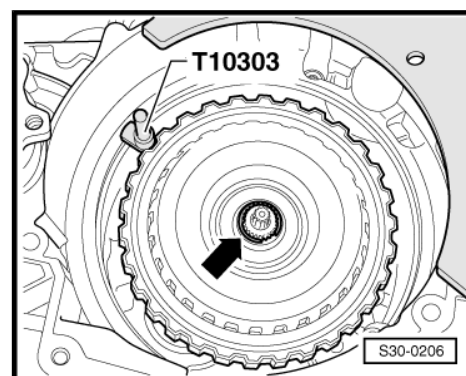
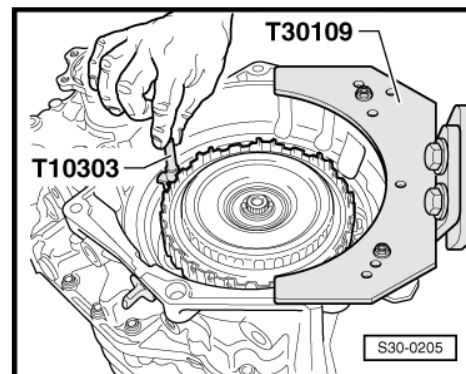
First measurement:

- The retaining bolt -T10303- remains installed!
- Screw the universal dial gauge holder -MP3-447 (VW 387)- onto the gearbox flange.

- Position the push-button of the dial gauge on the drive shaft of the gearbox.
- Set the dial gauge to 0 with 1 mm bias.
- Lift the clutch upwards up to the stop and note the measuring result.

Second measurement:

- The retaining bolt -T10303- remains installed!



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- Position the push-button of the dial gauge on the hub of the large plate support of the clutch.



Note

Push-button must not be positioned on the circlip.

- Set the dial gauge to 0 with 1 mm bias.
- Lift the clutch upwards up to the stop and note the measuring result.

Now it is calculated, which one from all nine circlips will finally be installed:

- For this purpose use this formula:

Second measurement minus first measurement plus 1.85 mm
= thickness of the circlip to be installed.

Example:

	0.12 mm	second measurement
—	0.04 mm	first measurement
+	1.85 mm	constant value
=	1.93 mm	Measuring result
Thickness of the circlip 1.9 mm		

- Please note this result.

The remaining nine circlips are classified in 0.1 mm jumps.

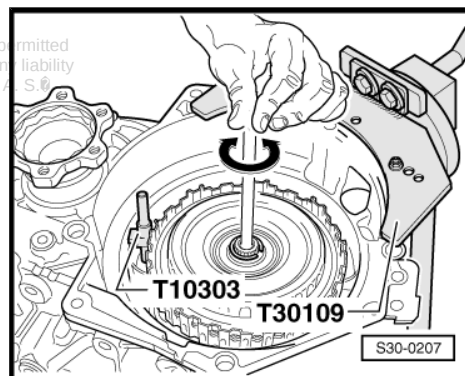
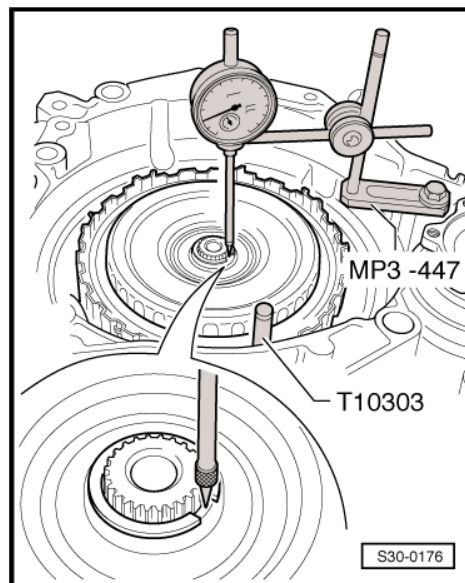
- Measure all the circlips and determine the circlip, which corresponds the closest to your result.
- Remove the 2 mm thick circlip and replace with measured circlip.
- Dispose of all the remaining rings.



Note

Circlips must only be installed once.

- Insert the drive shaft of the gearbox oil pump and to do so turn slightly -in direction of arrow-

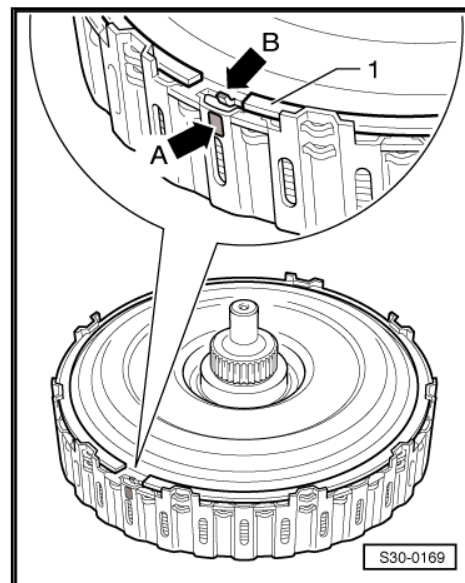


- Insert the clutch cover in such a way that the peg -arrow B- is aligned with the marking -arrow A-.
- Insert new circlip -1- into the clutch.
- Remove retaining bolt -T10303- .
- installing cover (cover plate) for clutch ⇒ [page 23](#) .

The installation is completed, the clutch is correctly set.

After installing the gearbox:

- Carry out the basic measurement of the mechatronics for double clutch gearbox -J743 - using the ⇒ Vehicle diagnosis, testing and information system VAS 5051.



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34 – Control, housing

1 Electric/electronic components and fitting locations for the automatic gearbox DSG - 02E

1 - Diagnostic connection

- ❑ Fitting location: Cover in driver's footwell

2 - Selector lever position indicator -Y6-

- ❑ Fitting location: integrated in the dash panel insert
- ❑ a switched off gear display points to an emergency operation with deactivated gearbox control unit
- ❑ a fully lit gear display points to an emergency operation with activated gearbox control unit
- ❑ can only be replaced together with the dash panel insert ➔ Electrical System; Rep. Gr. 90

3 - Cover for shift mechanism with lamp for selector lever scale illumination -L101-

- ❑ the lamp for selector lever scale illumination - L101- is integrated in the cover frame; fitting location ➔ [page 36](#)
- ❑ the lamp for selector lever scale illumination - L101- is checked by self-diagnosis
- ❑ removing and installing ➔ [page 72](#)

4 - Mechatronics for double clutch gearbox -J743-

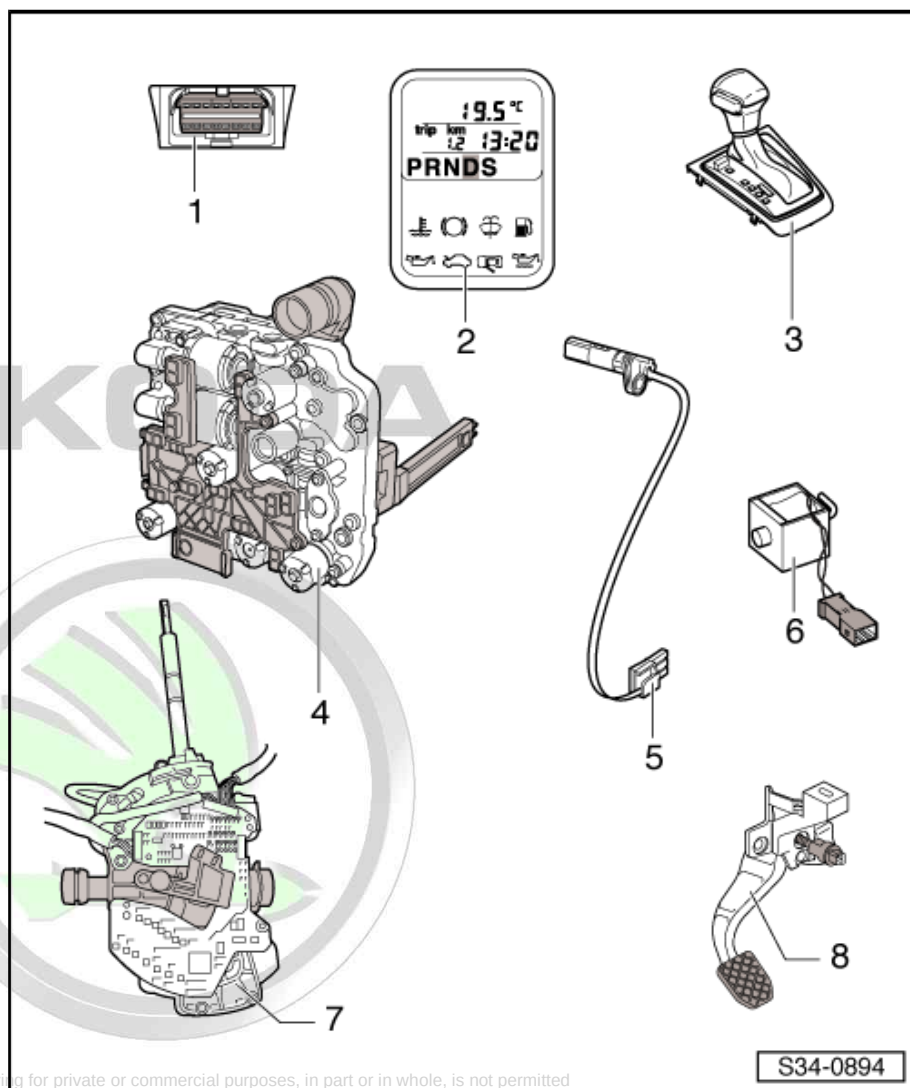
- ❑ Fitting location ➔ [page 35](#)
- ❑ is checked by self-diagnosis
- ❑ removing and installing ➔ [page 45](#)

5 - Gearbox input r.p.m. sender -G182- and temperature sender for clutch -G509-

- ❑ Fitting location ➔ [page 36](#)
- ❑ is checked by self-diagnosis
- ❑ before the sender can be removed, the mechatronics for double clutch gearbox -J743- must be removed ➔ [page 45](#)
- ❑ removing and installing ➔ [page 55](#)

6 - Selector lever lock solenoid -N110-

- ❑ Fitting location ➔ [page 36](#)
- ❑ is checked by self-diagnosis



7 - Selector lever -E313- with Tiptronic switch -F189- , selector lever sensor control unit -J587- and selector lever switch locked in P -F319 -

- ❑ Fitting location ⇒ [page 36](#)
- ❑ are checked by self-diagnosis
- ❑ Tiptronic switch -F189- , selector lever sensor control unit -J587- and selector lever switch locked in P -F319 - are integrated into the shift mechanism.
- ❑ these components cannot be replaced separately; the removal and installation procedure is only possible together with the gearshift mechanism ⇒ [page 69](#)

8 - Brake light switch -F-

- ❑ Fitting location up to 10.05 ⇒ [page 37](#)
- ❑ Fitting location as of 11.05 ⇒ [page 37](#)
- ❑ Signal transfer from engine to gearbox control unit via CAN databus
- ❑ is checked by self-diagnosis
- ❑ removing and installing ⇒ Chassis; Rep. Gr. 46

Mechatronics for double clutch gearbox -J743-

Fitting location: The mechatronics for double clutch gearbox -J743- is bolted to the front of the gearbox housing and covered with the gearbox oil pan.

The control unit is firmly integrated in the mechatronics for double clutch gearbox -J743- .

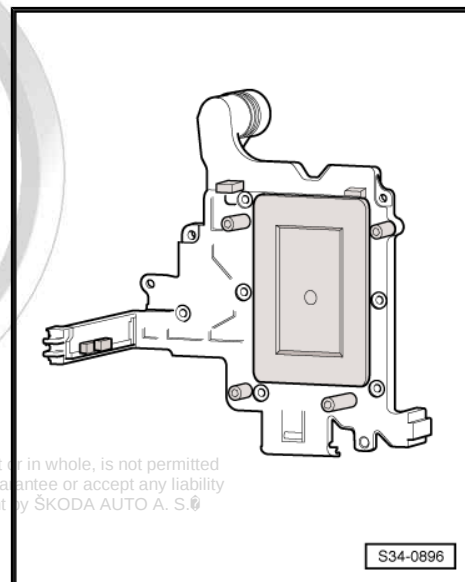
- ◆ is checked by self-diagnosis

In the mechatronics the solenoid valves -N88- , -N89- , -N90- , -N91- , -N92- and the pressure regulating valves for automatic gearbox 1 -N215- , 2 -N216- , 3 -N217- , 4 -N218- , 5 -N233- and 6 -N371- are secured.

The following senders and sensors are located in the control unit:

- ◆ Hydraulic pressure sender -1- for automatic gearbox -G193- and hydraulic pressure sender -2 for automatic gearbox -G194-
- ◆ Gearbox oil temperature sender -G93- and temperature sender in control unit -G510-
- ◆ Gearbox input r.p.m. sender -G195- and gearbox output r.p.m. sender -2- -G196-
- ◆ Drive shaft r.p.m. sender -1- -G501- and Drive shaft r.p.m. sender -2- -G502 -
- ◆ Path sensors for gear switch -1- -G487- , 2 -G488- , 3 -G489- and 4 -G490-

Removing and installing the mechatronics for double clutch gearbox -J743- ⇒ [page 45](#) .



Gearbox input r.p.m. sender -G182- and temperature sender for clutch -G509-

Fitting location: The gearbox input r.p.m. sender -G182- / temperature sender for clutch -G509- -A- is screwed under the mechatronics for double clutch gearbox -J743- onto the gearbox housing.

Removing and installing the gearbox input r.p.m. sender -G182- / temperature sender for clutch -G509- ➔ [page 55](#).

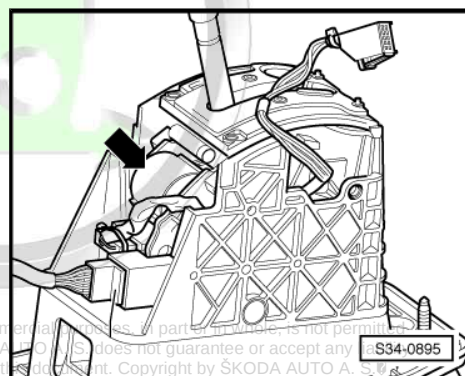


Selector lever lock solenoid -N110-

Fitting location up to 05.09: The selector lever lock solenoid -N110- -arrow- is located in the gearshift mechanism.

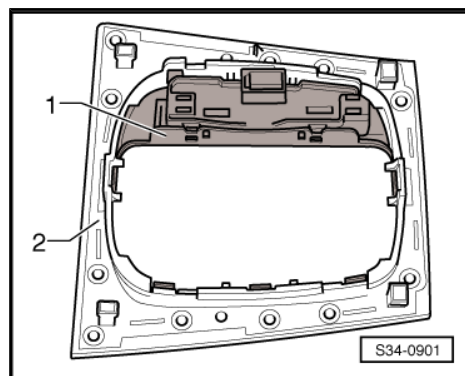
Fitting location as of 06.09: The selector lever lock solenoid -N110- -arrow- is located in the gearshift mechanism ➔ [page 71](#).

The selector lever lock solenoid -N110- is integrated firmly in the gearshift mechanism and cannot be replaced separately. The removal and installation procedure is only possible together with the gearshift mechanism ➔ [page 69](#).



Lamp for selector lever scale illumination -L101-

Fitting location: The lamp for selector lever scale illumination -L101- -1- is integrated in the bottom side of the cover frame -2-

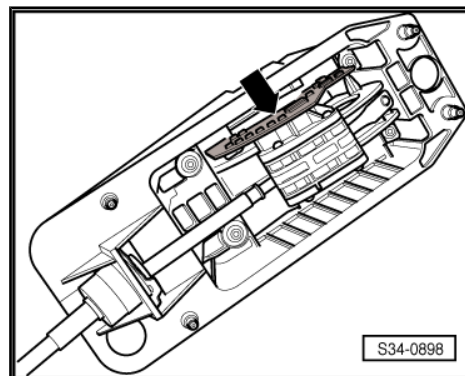


Selector lever -E313- with Tiptronic switch -F189-, selector lever sensor control unit -J587- and selector lever switch locked in P -F319-

Fitting location: Selector lever -E313- is integrated firmly into the shift mechanism.

Tiptronic switch -F189-, selector lever sensor control unit -J587- and selector lever switch locked in P -F319- are integrated firmly into the printed circuit board -arrow- of the shift mechanism (up to 05.09). A new shift mechanism is fitted as of 06.09, then the cover for the bottom shift mechanism can no longer be removed in this way.

These components cannot be replaced separately. The removal and installation procedure is only possible together with the gearshift mechanism ➔ [page 69](#).





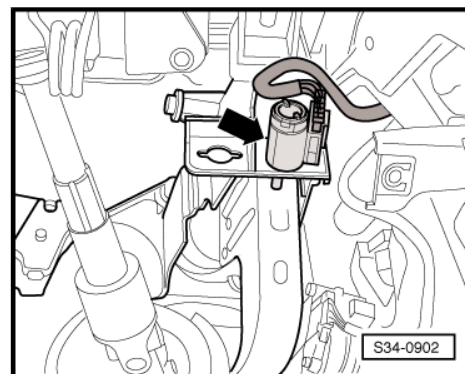
Brake light switch -F-

Fitting location: The brake light switch -F- -arrow- is located in the foot controls.



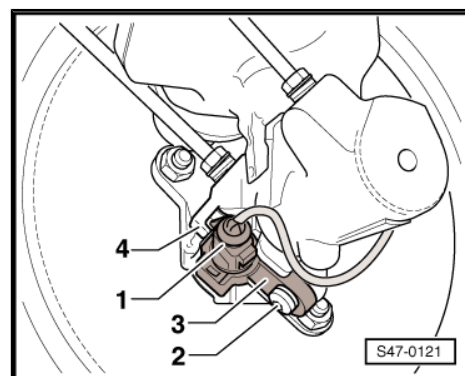
Note

The switch may only be installed once to ensure that it has an adequately tight fit.



Brake light switch -F-

Fitting location: Brake light switch -F- and brake pedal switch - F47- Pos. 3 are located on the master brake cylinder.



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2 Oil pan, mechatronics, gearbox oil pump

2.1 Overview of the components - Tightening torques

1 - Oil pan

- ☐ removing and installing
⇒ [page 41](#)

2 - Screw, 10 Nm

- ☐ always replace ⇒ Electronic Catalogue of Original Parts
- ☐ 5 pieces
- ☐ for attaching the oil pan with the oil pan gasket to the gearbox housing

3 - Gasket

- ☐ always replace ⇒ Electronic Catalogue of Original Parts

4 - Screw, 5 Nm + torque a further 90° (1/4 turn)

- ☐ 10 pieces
- ☐ always replace ⇒ Electronic Catalogue of Original Parts
- ☐ for attaching the mechatronics for double clutch gearbox DSG -J743- at gearbox housing
- ☐ pay attention to sequence for loosening and tightening
⇒ [page 45](#)

5 - Mechatronics for double clutch gearbox DSG -J743-

- ☐ the mechatronics is allocated according to the gearbox code letters ⇒ electronic catalogue of original parts
- ☐ with O-rings at connector
- ☐ Replace O-rings ⇒ Electronic Catalogue of Original Parts
- ☐ removing and installing ⇒ [page 45](#)

6 - Automatic gearbox DSG

7 - Ventilation tube

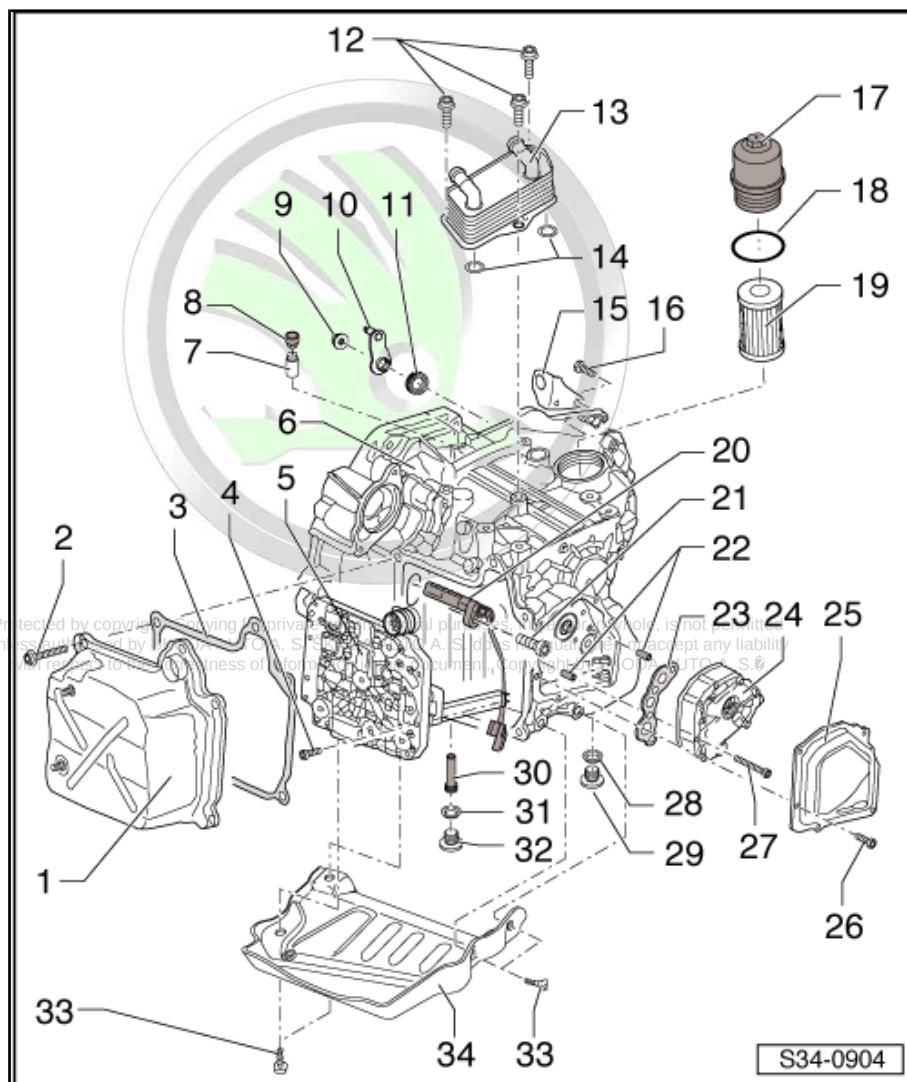
- ☐ pressed into the gearbox
- ☐ always replace after removing

8 - Ventilation cap

- ☐ positioned on the ventilation tube

9 - Nut, 20 Nm

- ☐ always replace ⇒ Electronic Catalogue of Original Parts





10 - Lever/gearshift shaft

- ☐ insert in such a way that the interrupted spacing of the teeth matches the gearshift shaft

11 - Gasket for gearshift shaft

- ☐ Fitting location: Inscription must point outwards to the lever/gearshift shaft
- ☐ replace ⇒ [page 63](#)

12 - Screw, 20 Nm + torque a further 90° (1/4 turn)

- ☐ for attaching gearbox oil cooler at gearbox housing
- ☐ always replace ⇒ Electronic Catalogue of Original Parts

13 - Gearbox oil cooler

- ☐ removing and installing ⇒ [page 56](#)

14 - O-rings

- ☐ always replace ⇒ Electronic Catalogue of Original Parts

15 - Cable support

- ☐ for selector lever control cable

16 - Screw, 20 Nm + torque a further 90° (1/4 turn)

- ☐ always replace ⇒ Electronic Catalogue of Original Parts
- ☐ 2 pieces
- ☐ for attaching cable support at gearbox housing

17 - Filter housing, 20 Nm

18 - O-ring

- ☐ always replace ⇒ Electronic Catalogue of Original Parts

19 - Gearbox oil filter

- ☐ Replace whenever the oil is changed
- ☐ Check fitting position
- ☐ removing and installing ⇒ [page 113](#)

20 - Gearbox input r.p.m. sender -G182- with temperature sender for clutch -G509-

- ☐ removing and installing ⇒ [page 55](#)

21 - Screw, 10 Nm

- ☐ always replace ⇒ Electronic Catalogue of Original Parts

22 - Fit pin

- ☐ 2 pieces
- ☐ for attaching gearbox oil pump to gearbox housing

23 - Gasket

- ☐ always replace ⇒ Electronic Catalogue of Original Parts

24 - Gearbox oil pump

- ☐ removing and installing ⇒ [page 59](#)

25 - Cover for gearbox oil pump

- ☐ with vulcanized gasket
- ☐ always replace ⇒ Electronic Catalogue of Original Parts
- ☐ removing and installing ⇒ [page 59](#)

26 - Screw, 8 Nm

- ☐ always replace ⇒ Electronic Catalogue of Original Parts
- ☐ 4 pieces
- ☐ for attaching cover to gearbox housing

27 - Screw

- ☐ different screws for gearbox oil pump ⇒ [page 61](#)

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- ☐ always replace ⇒ Electronic Catalogue of Original Parts
- ☐ 4 pieces
- ☐ for attaching gearbox oil pump to gearbox housing
- ☐ Loosen crosswise and tighten

28 - Sealing ring

- ☐ always replace ⇒ Electronic Catalogue of Original Parts

29 - Drain plug, 45 Nm

- ☐ as of 01.05 the screw is not available. Oil can be drained Pos. 32 via check screw

30 - Overflow tube, 3 Nm

- ☐ out of plastic
- ☐ the length of the overflow tube determines the oil level in the gearbox, when replacing assign via part number ⇒ Electronic Catalogue of Original Parts .

31 - Sealing ring

- ☐ always replace ⇒ Electronic Catalogue of Original Parts

32 - Inspection plug, 45 Nm

- ☐ an overflow tube with an 8 mm hexagon socket pos. 30 is located behind this screw

33 - Screw, 32 Nm

- ☐ 4 pieces
- ☐ for attaching protective plate to gearbox housing

34 - Protection plate

- ☐ installed on a few gearboxes

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3 Removing and installing oil pan

Special tools and workshop equipment required

- ◆ Catch pan
- ◆ Protective goggles



Caution

Do not run the engine or tow the vehicle when the oil pan has been removed or without filling with gearbox oil.



Note

- ◆ Observe instructions for automatic gearbox DSG - 02E ⇒ [page 12](#).
- ◆ General repair information ⇒ [page 12](#).
- ◆ Regulations concerning cleanliness when working on the gearbox ⇒ [page 12](#).
- ◆ Pay attention to the subject "dirty oil" as well as to the instructions for oil filter change.
- ◆ When changing the gear oil, the gearbox oil filter must not always be replaced. Therefore comply with the instructions, when the gearbox oil filter must be replaced and when not ⇒ [page 12](#)
- ◆ Moisten O-rings and gasket rings with gear oil. Other types of lubricant will cause the gearbox hydraulic control system to malfunction.
- ◆ If the battery earth strap is disconnected and connected, carry out certain additional operations ⇒ *Electrical System; Rep. Gr. 27*.

3.1 Removing oil pan

- Engine switched off.



Note

*If the battery earth strap is disconnected and connected, carry out certain additional operations ⇒ *Electrical System; Rep. Gr. 27*.*

- Disconnect the battery-earth strap with the ignition off ⇒ *Electrical System; Rep. Gr. 27*.
- Remove the sound dampening system ⇒ *Body Work; Rep. Gr. 50*.

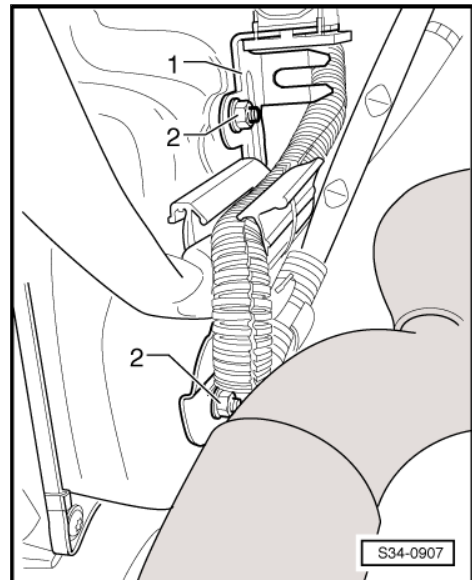


- Unscrew nuts -2- from bracket -1- on the oil pan and remove bracket from the threaded bores at the oil pan.



Note

The threaded bores are welded at the front of the gearbox to the oil pan.

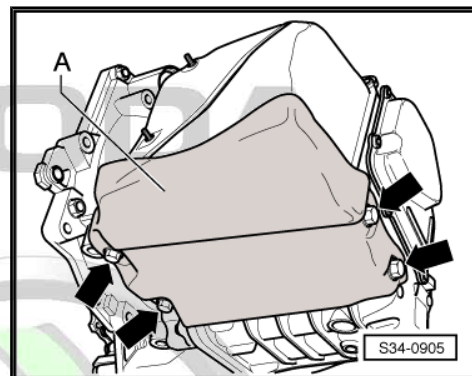


- Remove protection plate -A- at the bottom of the gearbox -arrows-; if applicable.
- Position the catch pan under the gearbox.

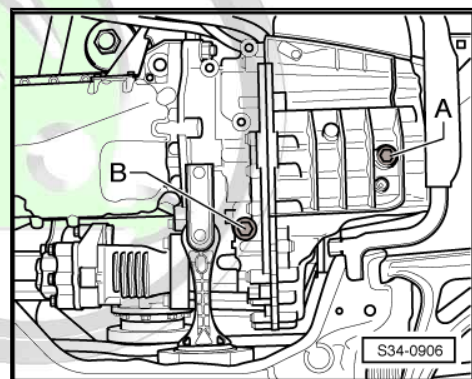


WARNING

Wear safety goggles.



Gearbox with drain plug -A- and check screw -B- installed up to 12.04.



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The gearboxes installed as of 01.05 have only one check screw -B-.

Oil can only be drained via check screw -B-.

- Unscrew check screw -B- close to the pendulum support.



Note

A plastic overflow tube with an 8 mm hexagon socket and a tightening torque of 3 Nm is located behind this screw. The length of the overflow tube determines the oil level in the gearbox, when replacing assign via part number ➔ Electronic Catalogue of Original Parts .

- Remove overflow tube.

Approx. 5.0 ltr of oil flows out. Furthermore, the catch pan remains under the gearbox.

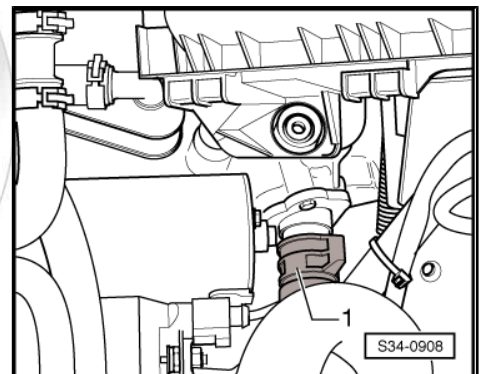
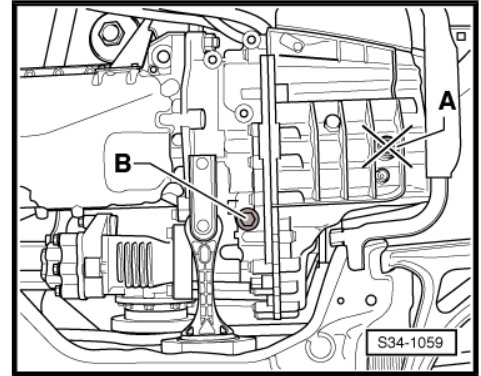
- Screw in overflow tube and tighten to tightening torque ➔ [page 38](#) .
- Grab with the hand (without gloves) at the mass, in order to discharge yourself electrostatically.



Caution

- ◆ *Only then touch or remove the mechatronics for double clutch gearbox -J743- , after you have discharged yourself electrostatically at an earthed object beforehand, e.g. skin contact with mass.*
- ◆ *Under no circumstances must the plug contacts in the plug of the gearbox be touched with the hands, because the control unit can be destroyed through static discharge as well as the mechatronics.*

- Turn the bayonet catch -1- of the plug to the left and disconnect plug from gearbox.



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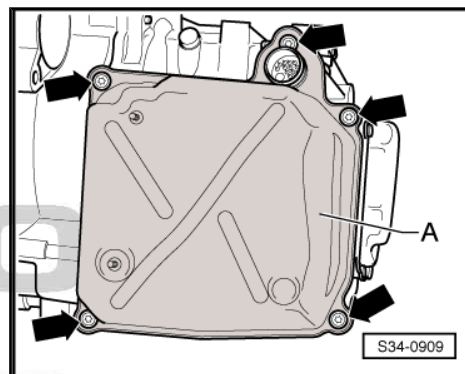
- Loosen screws -arrows- of the oil pan -A- crosswise and unscrew.



Note

There is still gearbox oil in the oil pan, because not all of it can be drained off.

- Remove oil pan with the oil pan gasket.
- Always replace oil pan gasket ⇒ Electronic Catalogue of Original Parts .



3.2 Installing oil pan

Installation is carried out in the reverse order. Pay attention to the following:

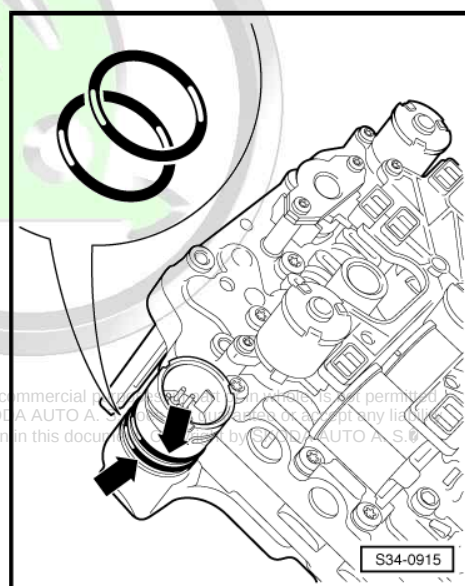
- Replace both O-rings -arrows- at the connection of the mechatronics.
- Moisten O-rings with DSG oil.
- Clean sealing surfaces and eliminate residues of oil.
- Pay attention to correct fitting of new oil pan gasket.
- Position oil pan. At the same time do not get the cables trapped.
- Insert new screws for the oil pan and tighten crosswise in several stages to tightening torque ⇒ [page 38](#) .
- Replace gearbox oil filter (instructions, when the gearbox oil filter must be replaced and when not ⇒ [page 12](#)).
- Pour in gear oil ⇒ [page 113](#) .



Note

If the battery earth strap is disconnected and connected, carry out certain additional operations ⇒ Electrical System; Rep. Gr. 27 .

- Connect earth strap of battery ⇒ Electrical System; Rep. Gr. 27 .



4 Mechatronics for double clutch gearbox -J743-

Special tools and workshop equipment required

- ◆ Catch pan



Caution

Do not run the engine or tow the vehicle when the oil pan has been removed or without filling with gearbox oil.



Note

- ◆ Observe instructions for automatic gearbox DSG - 02E ⇒ [page 12](#).
- ◆ General repair information ⇒ [page 12](#).
- ◆ Regulations concerning cleanliness when working on the gearbox, in particular the dirt on open mechatronics or gearbox oil pump can lead to the failure of the gearbox function ⇒ [page 12](#).
- ◆ The mechatronics is allocated according to the gearbox code letters ⇒ electronic catalogue of original parts.
- ◆ Pay attention to the subject "dirty oil" as well as to the instructions for oil filter change.
- ◆ When changing the gear oil, the gearbox oil filter must not always be replaced. Therefore comply with the instructions, when the gearbox oil filter must be replaced and when not ⇒ [page 12](#).
- ◆ If the battery earth strap is disconnected and connected, carry out certain additional operations ⇒ Electrical System; Rep. Gr. 27.
- ◆ If the mechatronics is replaced when the gearbox is removed, the gearbox has to be attached to the assembly stand ⇒ [page 112](#).

4.1 Removing mechatronics for double clutch gearbox -J743-

- Shift selector lever into position "P".



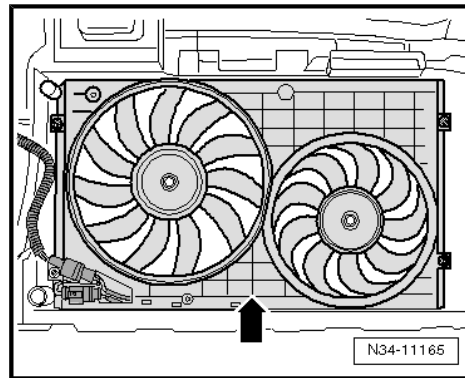
Note

If the battery earth strap is disconnected and connected, carry out certain additional operations ⇒ Electrical System; Rep. Gr. 27.

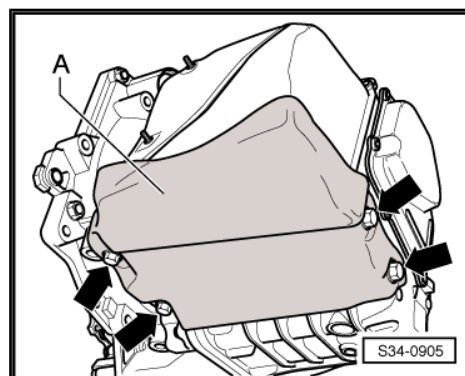
- Disconnect the battery-earth strap with the ignition off ⇒ Electrical System; Rep. Gr. 27.
- Remove the sound dampening system ⇒ Body Work; Rep. Gr. 50.
- Remove the front left wheelhouse liner ⇒ Body Work; Rep. Gr. 66.



- Remove fan shroud with radiator fans ⇒ Engine; Rep. Gr. 19 .



- Remove protection plate -A- at the bottom of the gearbox -arrows-; if applicable.
- If fitted; remove connecting hose between charge air cooler and charge air pipe ⇒ Engine; Rep. Gr. 21 .



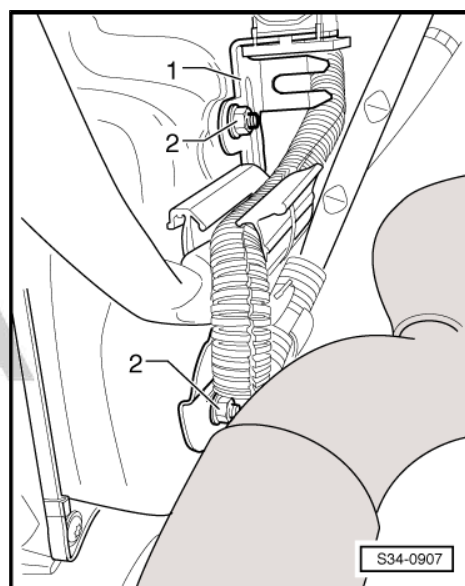
- Unscrew nuts -2- from bracket -1- on the oil pan and remove bracket from the threaded bores at the oil pan.



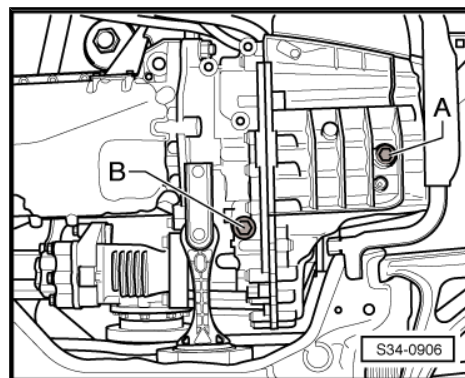
Note

The threaded bores are welded at the front of the gearbox to the oil pan.

- Raise the cables in the area of the oil pan and attach.
- Position the catch pan under the gearbox.



Gearbox with drain plug -A- and check screw -B- installed up to 12.04.



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The gearboxes installed as of 01.05 have only one check screw -B-.

Oil can only be drained via check screw -B-.

- Unscrew check screw -B- close to the pendulum support.

i Note

A plastic overflow tube with an 8 mm hexagon socket and a tightening torque of 3 Nm is located behind this screw. The length of the overflow tube determines the oil level in the gearbox, when replacing the tube assign via part number ➔ Electronic Catalogue of Original Parts

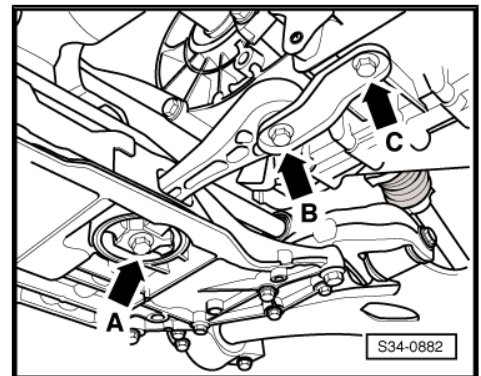
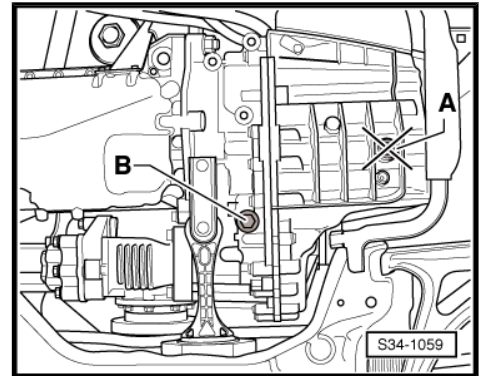
- Remove overflow tube.

Approx. 5.0 ltr of oil flows out. Furthermore, the catch pan remains under the gearbox.

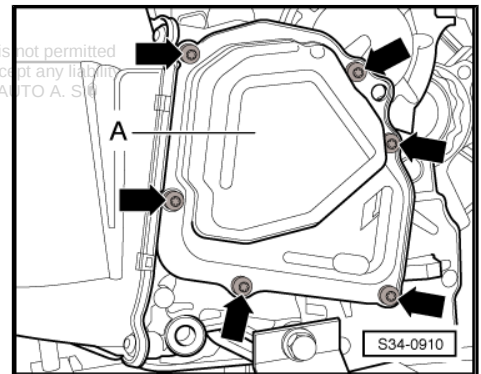
- Screw in overflow tube and tighten to tightening torque ➔ [page 38](#).

- Remove pendulum support, to do so screw out screws -arrows A, B and C-.

Afterwards the gearbox can be pressed slightly “towards the rear” to the assembly carrier in order to gain sufficient space for removing the mechatronics.



- Release screws -arrows- and remove cover for gearbox oil pump -A-.
- Grab with the hand (without gloves) at the mass, in order to discharge yourself electrostatically.



Caution

- ◆ **Only then touch or remove the mechatronics for double clutch gearbox -J743-, after you have discharged yourself electrostatically at an earthed object beforehand, e.g. skin contact with mass.**
- ◆ **Under no circumstances must the plug contacts in the plug of the gearbox be touched with the hands, because the control unit can be destroyed through static discharge as well as the mechatronics.**



- Loosen screws -arrows- of the oil pan -A- crosswise and unscrew.

**Note**

There is still gearbox oil in the oil pan, because not all of it can be drained off.

- Remove oil pan with the oil pan gasket.
- Always replace oil pan gasket ⇒ Electronic Catalogue of Original Parts .

The cover for the gearbox oil pump and the screws of the oil pan must always be replaced ⇒ Electronic Catalogue of Original Parts .

**Caution**

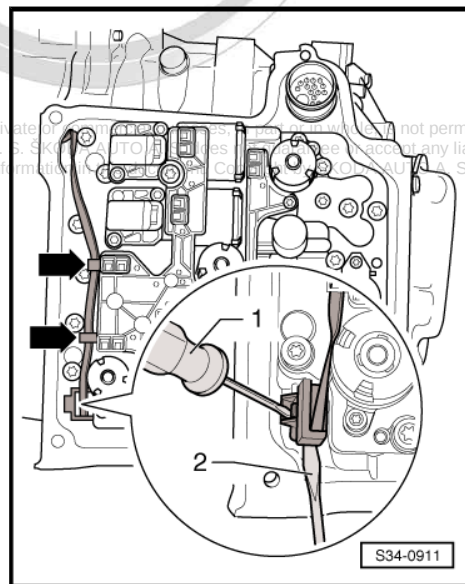
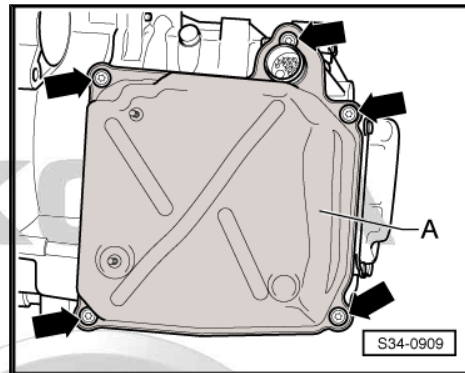
If the cover for the gearbox oil pump is not removed, when removing the mechatronics for double clutch gearbox -J743 - the long gearbox output r.p.m. sender -G195- / gearbox output r.p.m. -2- -G196- is damaged on the reverse side.

- Using a small screwdriver -1- carefully release the gearbox input r.p.m. sender -G182- with temperature sender for clutch -G509- and carefully lever out with a second screwdriver -2-.

**Note**

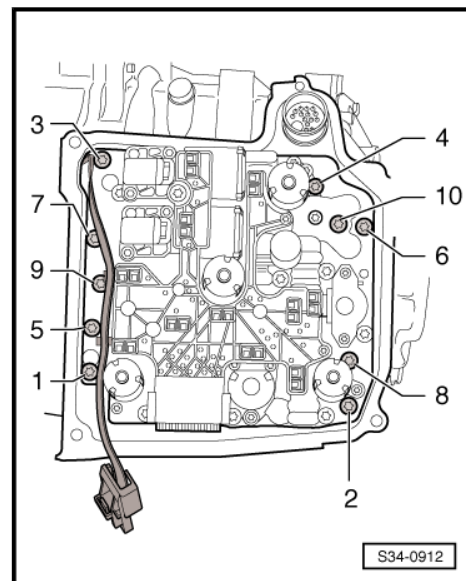
Do not pull on the cable of the plug! If the cable is damaged, the gearbox input r.p.m. sender - G182- / temperature sender for clutch -G509- must be replaced.

- Disconnect the plug without pulling on the cable.
- Remove the cable from the retaining lugs -arrows-.

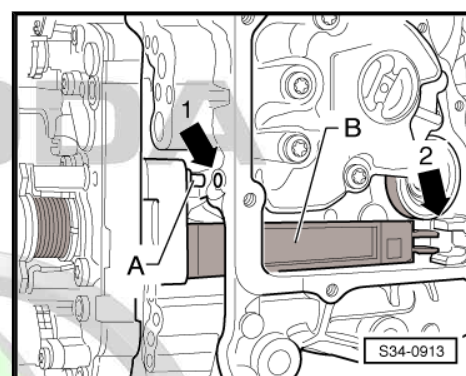


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- Loosen fixing screws -1- to -10- in the prescribed sequence and unscrew.



- Pull the mechatronics out of the gearbox housing so far until the sender arm -B- on the reverse side is no longer located in the gearbox housing.
- Carefully swivel out the mechatronics für double clutch gearbox -J743- to the bottom.

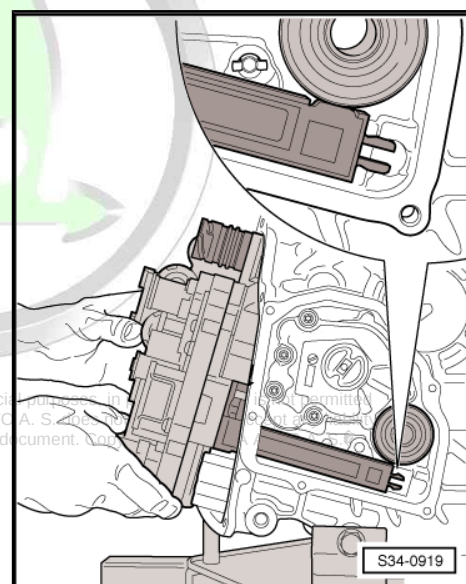


- Removing mechatronics for double clutch gearbox -J743- .



Caution

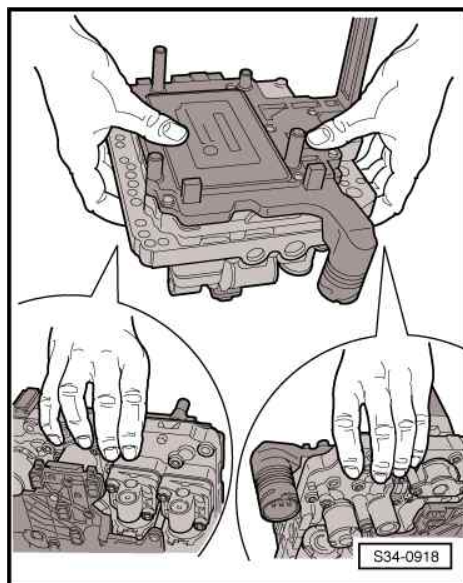
Never raise the mechatronics at the sender arm or place down on it.



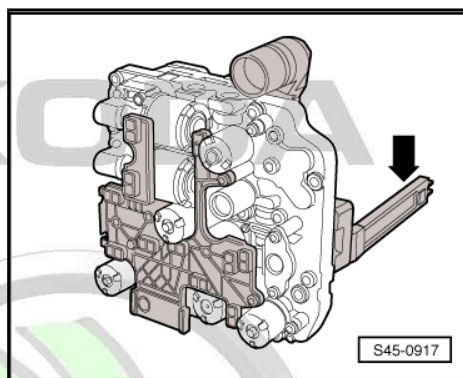
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- Transport and place down the mechatronics, as illustrated in the fig.



Pay particular attention to the long sender arm when handling the mechatronics -arrow- (if the “sender arm” is damaged, the mechatronics must be replaced).



4.2 Installing mechatronics for double clutch gearbox -J743-

- Before the installation make sure that the gearbox input r.p.m. sender -G182- and temperature sender for clutch -G509- are installed.



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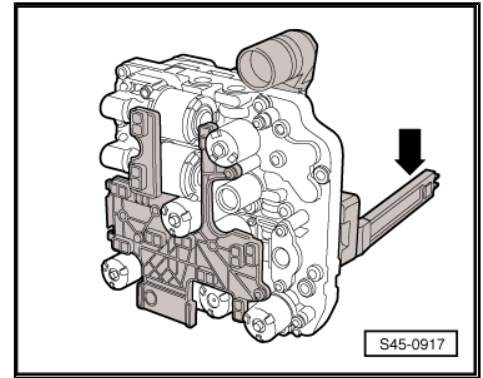
If the sender arm -arrow- is damaged, the complete mechatronics must be replaced.

- Grab with the hand (without gloves) at the mass, in order to discharge yourself electrostatically.

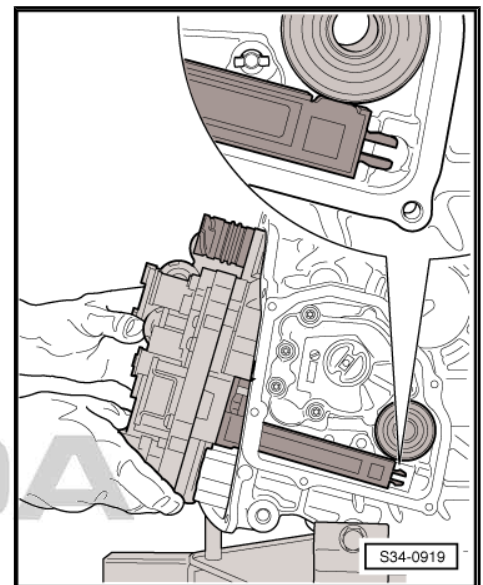


Caution

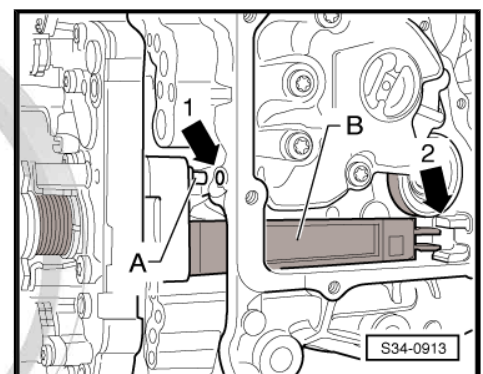
- ◆ *Only then touch or remove the mechatronics for double clutch gearbox - J743- , after you have discharged yourself electrostatically at an earthed object beforehand, e.g. skin contact with mass.*
- ◆ *Under no circumstances must the plug contacts in the plug of the gearbox be touched with the hands, because the control unit can be destroyed through static discharge as well as the mechatronics.*



- Carefully insert the mechatronics for double clutch gearbox - J743- into the gearbox housing.



- Pay attention to the correct seating of the dowel pin -A- in the gearbox housing -arrow 1- and the sender arm -B- in the guide -arrow 2- at the gearbox housing.

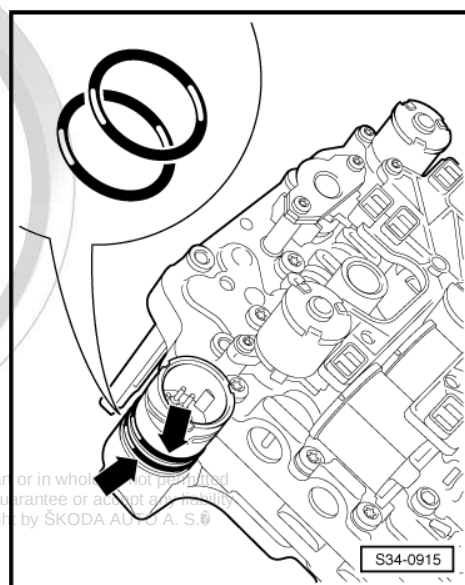
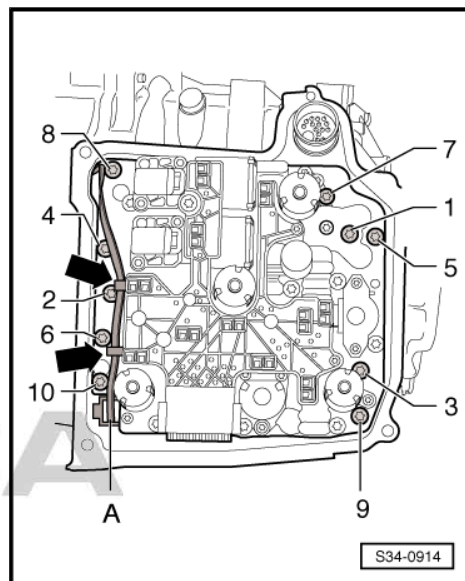




Note

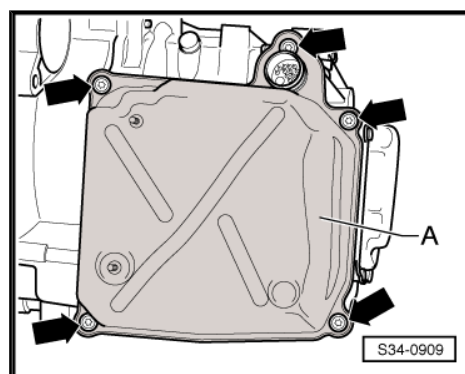
- ◆ Do not get the cable of the gearbox input r.p.m. sender -G182- and the temperature sender for clutch -G509- trapped.
- ◆ When mounting the mechatronics for double clutch gearbox -J743- the cable of the plug -A- must not get trapped. If the cable is damaged, the gearbox input r.p.m. sender -G182- / temperature sender for clutch -G509- must be replaced.
- ◆ The long sender on the reverse side of the mechatronics for double clutch gearbox -J743- must not be damaged.

- Screw in new screws -1- to -10- by hand.
- Tighten the screws in the given sequence to 5 Nm + 90° (1/4 turn).
- First hang the cable -A- in the upper, then in the lower retaining lug -arrows-.
- Mount plug and lock into position.
- Replace both O-rings -arrows- at the connection of the mechatronics.
- Moisten O-rings with DSG oil.
- Clean sealing surfaces and eliminate residues of oil.
- Pay attention to correct fitting of new oil pan gasket.
- Position oil pan. At the same time do not get the cables trapped.

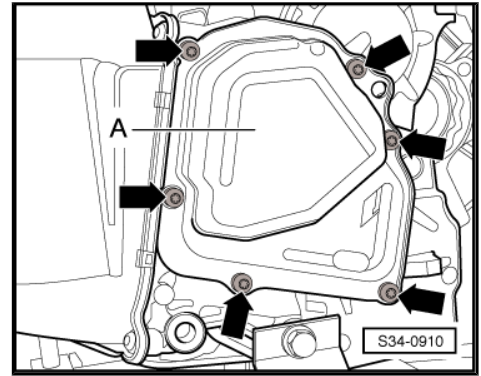


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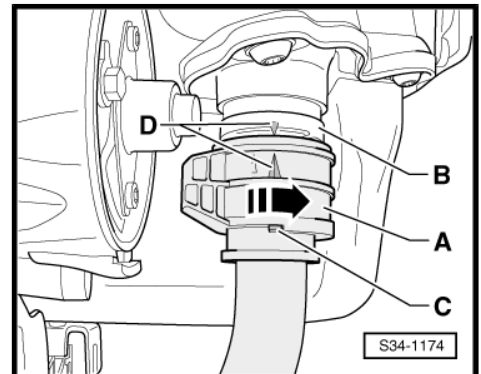
- Insert new screws -arrows- for the oil pan -A- and tighten crosswise in several stages to tightening torque ➔ [page 38](#) .



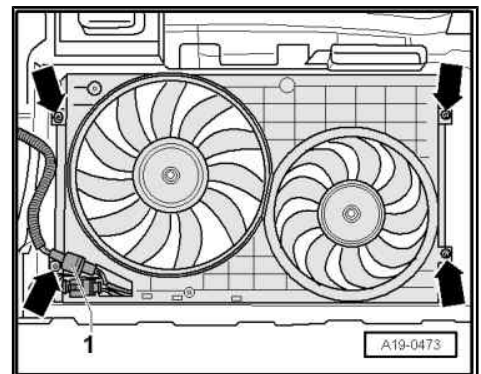
- Fit new cover for gearbox oil pump -A- and tighten screws -arrows- in successive stages to tightening torque
⇒ [page 38](#) .
- Install cable clip on the oil pan and tighten the nuts to 10 Nm.



- Mount the plug -A- of the mechatronics as follows:
 - The arrows -D- on the mechatronics -B- and on the plug -A- as well as the peg -C- must be on the same line and point upwards.
 - Then mount the plug -A- carefully up to the stop and lock the cap by turning it to the right in -direction of arrow-.



- Install fan -arrows- and fit together the plug connections -1- of the bottom radiator fan at the fan shroud.



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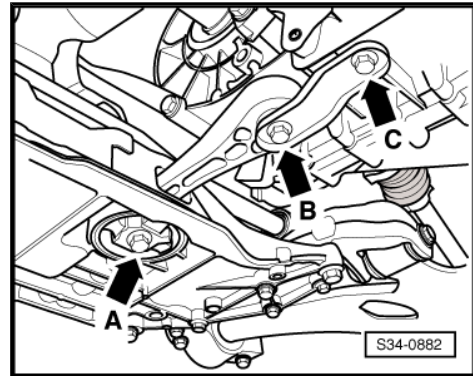
- Install pendulum support, to do so tighten screws -arrows A, B and C- to tightening torque ⇒ Engine; Rep. Gr. 10 .
- If fitted, install connecting hose between charge air cooler and charge air pipe ⇒ Engine; Rep. Gr. 21 .

**Note**

If the battery earth strap is disconnected and connected, carry out certain additional operations ⇒ Electrical System; Rep. Gr. 27 .

- Connect earth strap of battery ⇒ Electrical System; Rep. Gr. 27 .
- Do not start the engine!
- Replace gearbox oil filter (instructions, when the gearbox oil filter must be replaced and when not ⇒ [page 12](#)).
- Pour in gear oil ⇒ [page 113](#) .
- Install the noise insulation ⇒ Body Work; Rep. Gr. 50 .

After the installation of the mechatronics for double clutch gearbox -J743- , a basic setting must be performed with the ⇒ Vehicle diagnosis, testing and information system VAS 5051.



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5 Removing and installing the gearbox input r.p.m. sender -G182- and the temperature sender for clutch -G509-

Note

Both senders are combined in one component and can only be replaced together. They are located in the gearbox close to the clutch. Before removal, the mechatronics for double clutch gearbox DSG - J743- must be removed.



Caution

Do not pull on the cable of the plug! If the cable is damaged, the gearbox input r.p.m. sender - G182- / temperature sender for clutch -G509 - must be replaced.

Removing

- Removing mechatronics for double clutch gearbox DSG - J743- ➔ [page 45](#) .

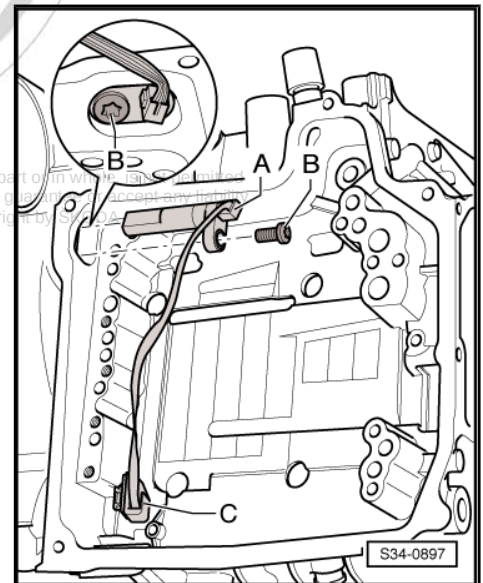
Do not pull on the cable!

- Unscrew screw -B- and carefully lever out the sender -A- with a screwdriver and/or pliers.
- Carefully pull out plug -C-.

Installing

Only install old sender, if you know precisely:

- the sender is error-free
- when removing, it was not pulled on its cable
- Moisten sender with DSG oil and insert.
- Tighten screw to tightening torque ➔ [page 38](#) .
- Installing mechatronics for double clutch gearbox DSG -J743 - ➔ [page 50](#) .



6 Removing and installing gearbox oil cooler

Special tools and workshop equipment required

- ◆ Hose clamp -MP7-602 (3094)-
- ◆ Pliers for spring strap clips , e.g. -VAS 6340-



Note

- ◆ *Observe instructions for automatic gearbox DSG - 02E ⇒ [page 12](#) .*
- ◆ *General repair information ⇒ [page 12](#) .*
- ◆ *Regulations concerning cleanliness when working on the gearbox ⇒ [page 12](#) .*
- ◆ *Pay attention to the subject "dirty oil" as well as to the instructions for oil filter change.*
- ◆ *When changing the gear oil, the gearbox oil filter must not always be replaced. Therefore comply with the instructions, when the gearbox oil filter must be replaced and when not ⇒ [page 12](#)*
- ◆ *If the battery earth strap is disconnected and connected, carry out certain additional operations ⇒ Electrical System; Rep. Gr. 27 .*

6.1 Removing

- Shift selector lever into position "P".
- Remove engine cover ⇒ engine; Rep. Gr. 10 .
- Remove air filter ⇒ Engine; Rep. Gr. 24 or ⇒ Rep. Gr. 23 .



Note

If the battery earth strap is disconnected and connected, carry out certain additional operations ⇒ Electrical System; Rep. Gr. 27 .

- Remove battery ⇒ Electrical System; Rep. Gr. 27 .
- Remove battery tray.

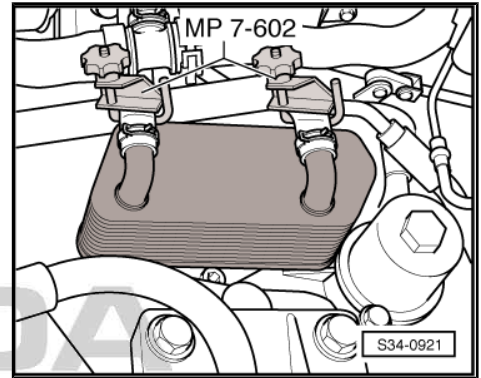


WARNING

Hot steam may escape after the compensation bottle is opened. Cover the cap with a cloth and open carefully.

- When the engine is warm the cooling system is under pressure. Slowly open the cap of the compensation bottle, in order to first reduce pressure before pulling off the coolant hoses.
- Do not place fluffing cloths on the gearbox oil cooler and the gearbox, in order to collect flowing out coolant.

- Pinch off coolant hoses with hose clamps -MP7-602 (3094)- and remove hoses from gearbox oil cooler.

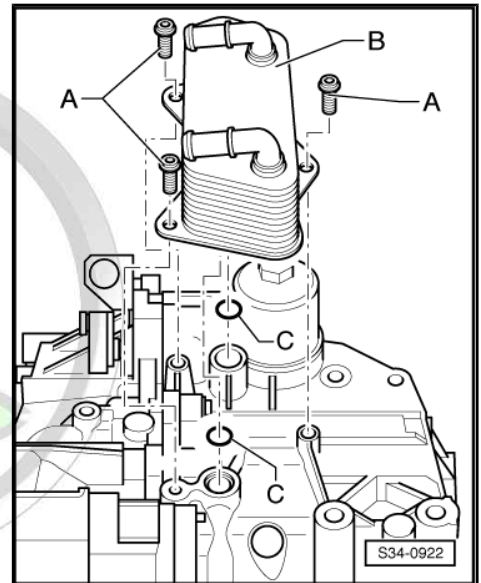


- Unscrew screws -A- and remove the gearbox oil cooler -B-.



Caution

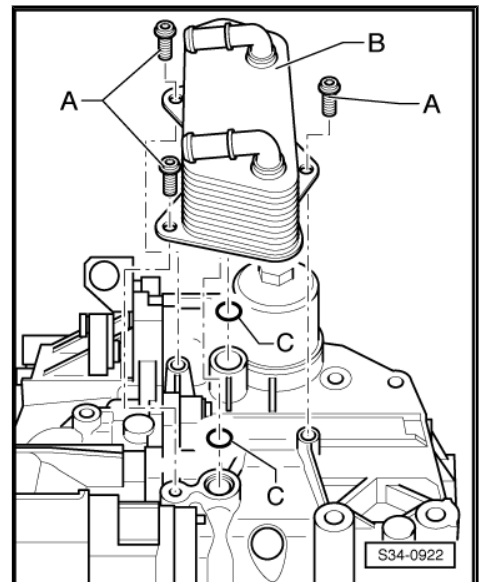
No coolant must drip onto the gearbox!



6.2 Install

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- Replace O-rings -C- at gearbox oil cooler -B-.
- Mount the gearbox oil cooler -B-, pay attention to the O-rings -C-.
- Insert new screws -A- and tighten to tightening torque
⇒ [page 38](#) .

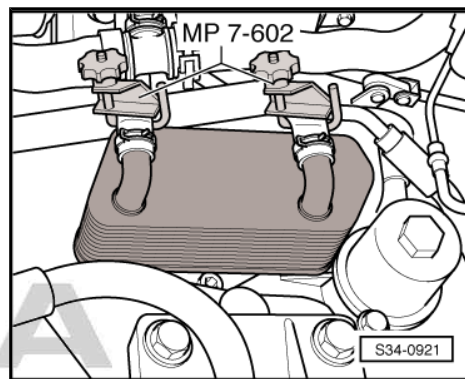




- Install coolant hoses at gearbox oil cooler and remove hose clamps -MP7-602 (3094)- .
- Install battery tray.
- Install filter housing and air mass meter -G70- , mount electrical plug connections, fasten ventilation hose with retaining clip ⇒ Engine; Rep. Gr. 23 or ⇒ Engine; Rep. Gr. 24 .

**Note**

If the battery earth strap is disconnected and connected, carry out certain additional operations ⇒ Electrical System; Rep. Gr. 27 .



- Install battery ⇒ Electrical System; Rep. Gr. 27 .
- Inspect coolant level, top up if necessary ⇒ Engine; Rep. Gr. 19 .
- Replace gearbox oil filter (instructions, when the gearbox oil filter must be replaced and when not ⇒ [page 12](#)) .
- Pour in gear oil ⇒ [page 113](#) .

**Caution**

Do not start the engine during the coolant level test, if it is not topped up with automatic gearbox DSG oil.

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7 Removing and installing gearbox oil pump

Special tools and workshop equipment required

- ◆ Catch pan



Caution

Do not run the engine or tow the vehicle when the oil pan has been removed or without filling with gearbox oil.

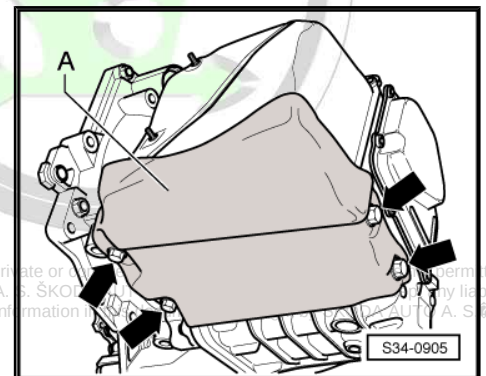


Note

- ◆ Observe instructions for automatic gearbox DSG - 02E ⇒ [page 12](#).
- ◆ General repair information ⇒ [page 12](#).
- ◆ Regulations concerning cleanliness when working on the gearbox, in particular the dirt on open mechatronics or gearbox oil pump can lead to the failure of the gearbox function ⇒ [page 12](#).
- ◆ Pay attention to the subject "dirty oil" as well as to the instructions for oil filter change.
- ◆ When changing the gear oil, the gearbox oil filter must not always be replaced. Therefore comply with the instructions, when the gearbox oil filter must be replaced and when not ⇒ [page 12](#).

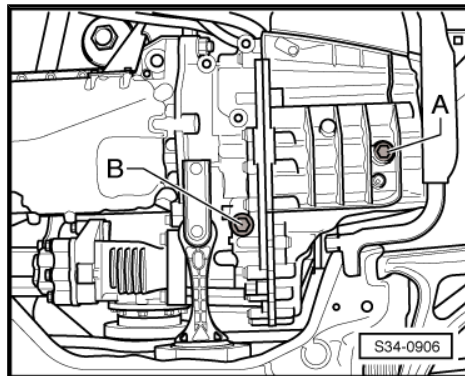
7.1 Removing

- Remove the sound dampening system ⇒ Body Work; Rep. Gr. 50.
- Remove front left wheel.
- Remove the front left wheelhouse liner ⇒ Body Work; Rep. Gr. 66.
- Remove protection plate -A- at the bottom of the gearbox -arrows-; if applicable.
- Position the catch pan under the gearbox.



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Gearbox with drain plug -A- and check screw -B- installed up to 12.04.



The gearboxes installed as of 01.05 have only one check screw -B-.

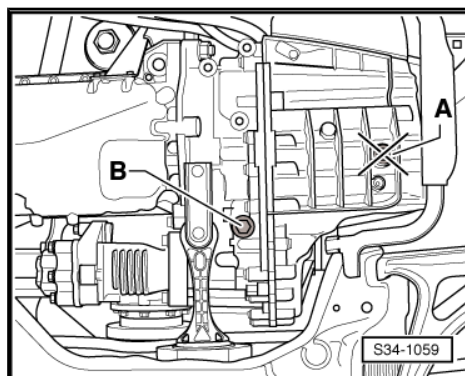
Oil can only be drained via check screw -B-.

- Unscrew check screw -B- close to the pendulum support.



Note

A plastic overflow tube with an 8 mm hexagon socket and a tightening torque of 3 Nm is located behind this screw. The length of the overflow tube determines the oil level in the gearbox, when replacing assign via part number ⇒ *Electronic Catalogue of Original Parts*.



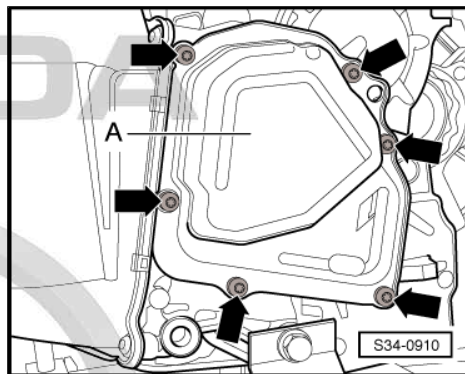
- Remove overflow tube.

Approx. 5.0 ltr of oil flows out. Furthermore, the catch pan remains under the gearbox.

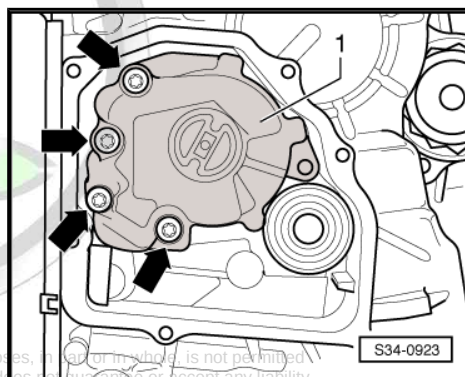
- Screw in overflow tube and tighten to tightening torque
⇒ [page 38](#).

- Release screws -arrows- and remove cover for gearbox oil pump -A-.

There is still oil in the cover for the gearbox oil pump.

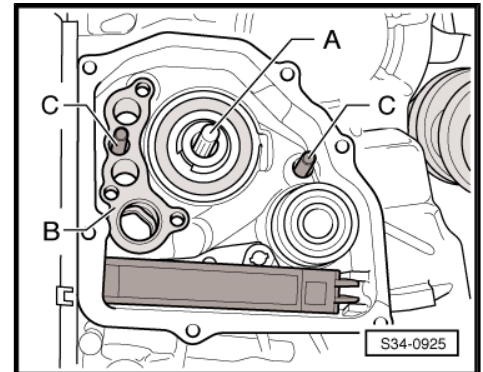


- Unscrew the screws -arrows- and pull off the gearbox oil pump -1- from the dowel pins and the drive shaft of the gearbox oil pump.



7.2 Install

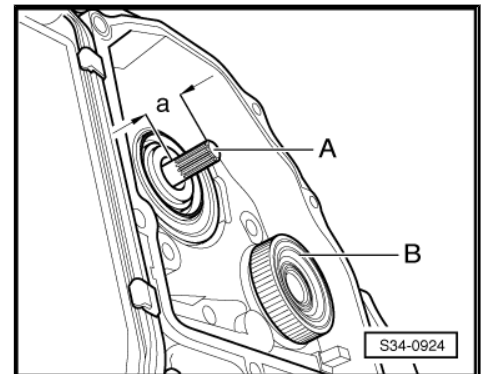
- Push drive shaft -A- of gearbox oil pump up to the stop into the gearbox. Turn the drive shaft slightly.
- Replace gasket for gearbox oil pump -B- at gearbox ⇒ Electronic Catalogue of Original Parts .
- Both dowel pins -C- must be located in the gearbox housing.



Note

Pay attention to the installed dimension of the shaft -A- = approx. 23 mm.

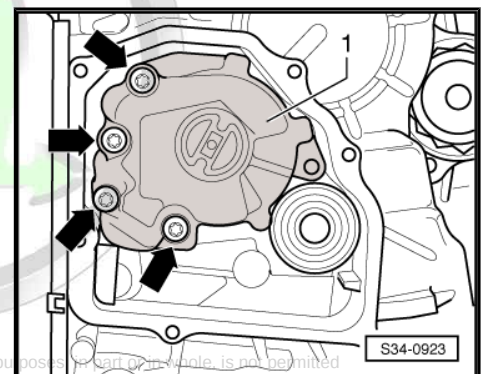
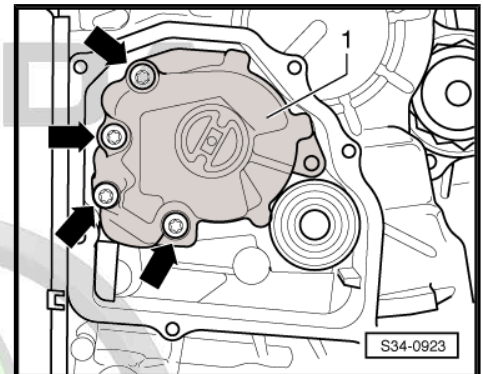
- If necessary carefully remove metallic swarf on the rotor -B-, the rotor must not be demagnetized.
- Remove the paper gasket between the gearbox oil pump and the gearbox.
- Remove the residues of the paper gasket and clean the gearbox.
- Clean the sealing surfaces for the gearbox oil pump and the gearbox.
- Fit new paper gasket between the gearbox oil pump and the gearbox, if necessary fix with gearbox oil.
- Push the gearbox oil pump -1- onto the drive shaft, pay attention to the serration of the oil pump/drive shaft.
- Also pay attention to the correct seating of the gearbox oil pump -1- on the dowel pins of the gearbox housing.
- Screw in new screws and then tighten crosswise to the corresponding tightening torque.



Different screws for gearbox oil pump -1-

All 4 flat head screws

- ◆ 4 flat head screws, 5 Nm + torque a further 90° (1/4 turn)

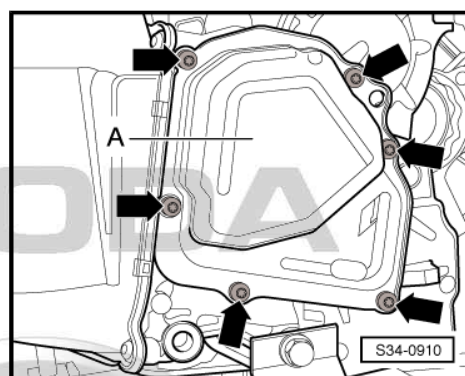
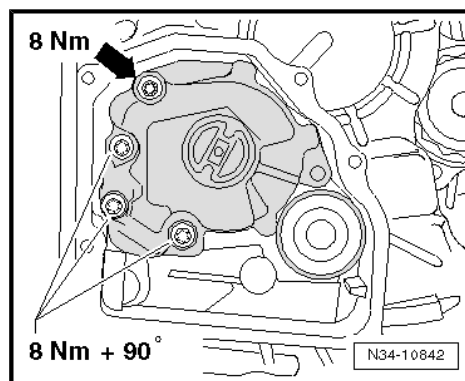




3 flat head screws, the highest screw -arrow- a countersunk screw

- ◆ 3 flat head screws, 8 Nm + torque a further 90° (1/4 turn)
- ◆ 1 countersunk screw -arrow-, 8 Nm

- Fit new cover for gearbox oil pump -A- and tighten the new screws -arrows- in successive stages to tightening torque ⇒ [page 38](#) .
- Replace gearbox oil filter (instructions, when the gearbox oil filter must be replaced and when not ⇒ [page 12](#)).
- Pour in gear oil ⇒ [page 113](#) .
- Install the complete cover of the left wheelhouse liner.
- Install the front left wheelhouse liner ⇒ Body Work; Rep. Gr. 66 .
- Install the noise insulation ⇒ Body Work; Rep. Gr. 50 .



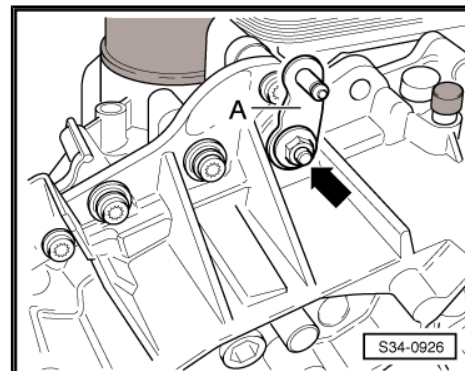
8 Replace the gasket ring of the gearshift shaft

Special tools and workshop equipment required

- ◆ Pipe section -MP3-479 (VW 423)-
- ◆ Extractor -T20143/1-

Removing gasket

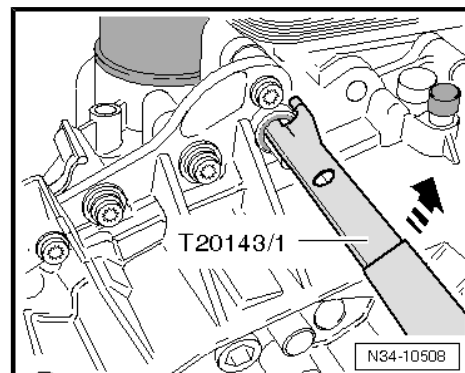
- Remove the selector lever control cable from the gearbox
⇒ [page 78](#) .
- Unscrew nut -arrow- of the gearshift shaft.
- Carefully lever off the lever -A- from the gearshift shaft.



- Lever out the gasket ring.

Installing gasket

- Lightly oil new gasket ring at outer surface.
- Fill half the space between the sealing lip and dust lip with sealing grease -G 052 128- .



- Drive in the new gasket ring up to stop. Do not tilt the gasket ring during this process.

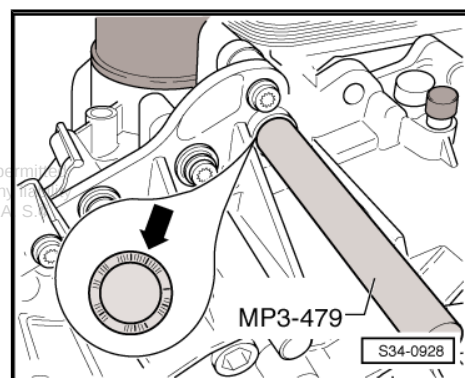


Note

The inscription -arrow- on the gasket ring must point outwards (to the pressing tool).

The gearshift shaft lever only fits in one position on the serration.

- Insert gearbox shift lever and tighten screws to tightening torque ⇒ [page 38](#) .
- Attach the selector lever control cable at the gearbox
⇒ [page 81](#) and adjust ⇒ [page 65](#) .



9 Shift mechanism



WARNING

Before working on the engine when the engine is running, insert the selector lever in position "P" and apply handbrake.

9.1 Inspecting the gearshift mechanism

- ◆ In selector lever positions "S", "D", "R" and Tiptronic position it must not be possible to activate the starter.
- ◆ At speeds above 5 km/h and shifting in selector lever position "N" the selector lever lock solenoid must not engage and block the selector lever. The selector lever can be shifted in a driving position.
- ◆ At speeds below 5 km/h and shifting in selector lever position "N" the selector lever lock solenoid must only engage after approx. 1s. The selector lever can only be moved from position "N" by activating the brake pedal.

Selector lever in position "P", button on selector lever pressed and ignition switched on

- The brake pedal is not pressed

The selector lever is locked when the button is pressed and cannot be moved out of position "P". The selector lever lock solenoid blocks the selector lever.

- The brake pedal is pressed

The selector lever lock solenoid releases the selector lever. It is possible to engage a driving gear position. Slowly shift selector lever from "P" through "R, N, D, S"; while doing so check whether the selector lever position in the dash panel insert corresponds with the actual selector lever position.

Selector lever in position "N", button on selector lever pressed and ignition switched on:

- The brake pedal is not pressed

The selector lever is locked and cannot be moved out of position "N". The selector lever lock solenoid blocks the selector lever.

- The brake pedal is pressed

The selector lever lock solenoid releases the selector lever. It is possible to engage a driving gear position.



Note

Shifting out of the position "N" to "D" by activating the brake pedal is also possible without pressing the button on the selector lever. From position "N" to "R" the button on the selector lever must be additionally pressed.

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Selector lever in position "D", ignition switched on

The selector lever is locked and cannot be shifted from position "D" to position "S".

- Button pressed on selector lever

The selector lever is released and can be shifted from position "D" to position "S".

- Selector lever in the Tiptronic gear leads to

The lighting up of the “D” symbol in the selector lever position indicator should go out and the “+” and “-” symbols should light up.

When the gear selector lever is put into the Tiptronic gate, the lever position display in the dash panel insert should change from “P R N D S” to “6 5 4 3 2 1”.

- Move selector lever in the Tiptronic gear to “+” and “-”.

The display of the selector lever position “6 5 4 3 2 1” in the dash panel insert must indicate (change) a higher or a lower gear when shifting the selector lever to “+” or to “-”.

- Inspecting and adjusting the selector lever control cable
⇒ [page 65](#) .
- Checking the ignition key lock ⇒ [page 68](#) .

Selector lever position indicator

When all parts of the selector lever position display are lit at the same time, it indicates that the gearbox is in emergency operation mode.

9.2 Inspecting and adjusting the selector lever control cable

Special tools and workshop equipment required

- ◆ Pliers for spring strap clips , e.g. -VAS 6340-

9.2.1 Inspection

- Shift selector lever into position “P”.
- Switch off ignition.
- Remove engine cover ⇒ engine; Rep. Gr. 10 .
- Remove air filter ⇒ Engine; Rep. Gr. 24 or ⇒ Rep. Gr. 23 .

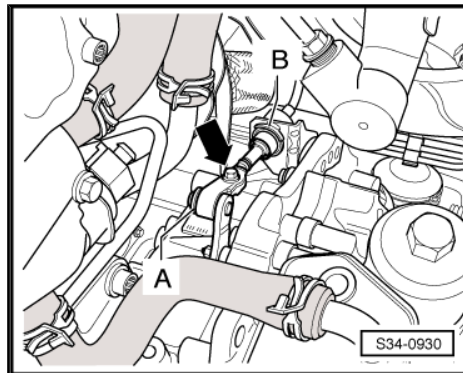


- Release lock washer -A- and remove to the top.
- Remove lock washer -B- towards the top.
- Press off the selector lever control cable from the lever/gearshift shaft and place upwards.
- Lever off selector lever control cable in such a way that the extremity can move freely.



Note

Do not bend or buckle selector lever control cable.



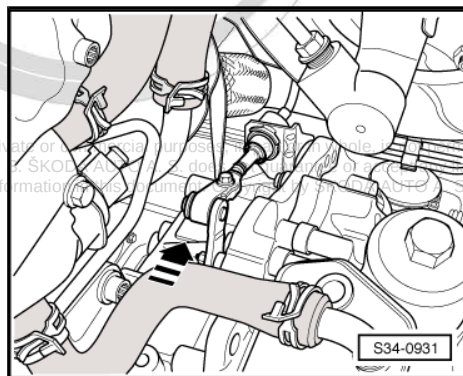
- Shift selector lever from “P” to “S”.
- Check boot at the front shift mechanism on the selector lever control cable for damage, if necessary replace control cable.
- Gearshift mechanism and selector lever control cable must move smoothly when shifting gears, if necessary replace selector lever control cable ⇒ [page 78](#) or repair gearshift mechanism ⇒ [page 69](#).

Do not grease ball socket of the selector lever control cable and lever/gearshift shaft.

- Carefully press selector lever control cable onto the lever/gearshift shaft.
- Mount new lock washer up to the stop and lock into place.
- Install filter housing and air mass meter -G70- , mount electrical plug connections, fasten ventilation hose with retaining clip ⇒ Engine; Rep. Gr. 23 or ⇒ Engine; Rep. Gr. 24 .

9.2.2 Setting

- Press lever at gearbox -in direction of arrow- into the position “P”.



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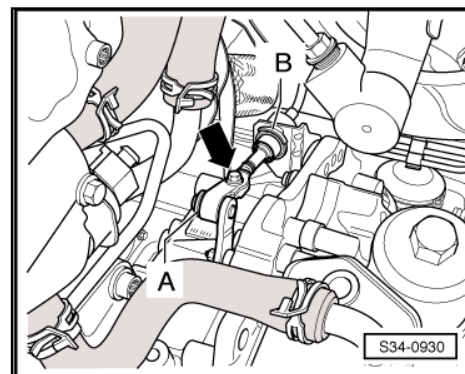
Lock washers -A- and -B- are installed.

- Release screw -arrow-.
- Turn both front wheels in one direction, e.g. by pushing the vehicle forwards, until the locking lever in the gearbox engages into the parking gear and the wheels are blocked (cannot be simultaneously turned in one direction).



Note

If the clamping screw -arrow- is released, the selector lever must remain in position "P", otherwise the setting is not correct.



- Slightly move the selector lever towards the front and rear, without shifting into another selector lever position.
- Tighten screw -arrow- at selector lever cable without jolting to tightening torque.

Tightening torque

- ◆ up to 11.08 tightening torque 13 Nm
- ◆ as of 12.08 tightening torque 12 Nm



Note

Pay attention when tightening the screw -arrow- that the selector lever control cable no longer shifts.

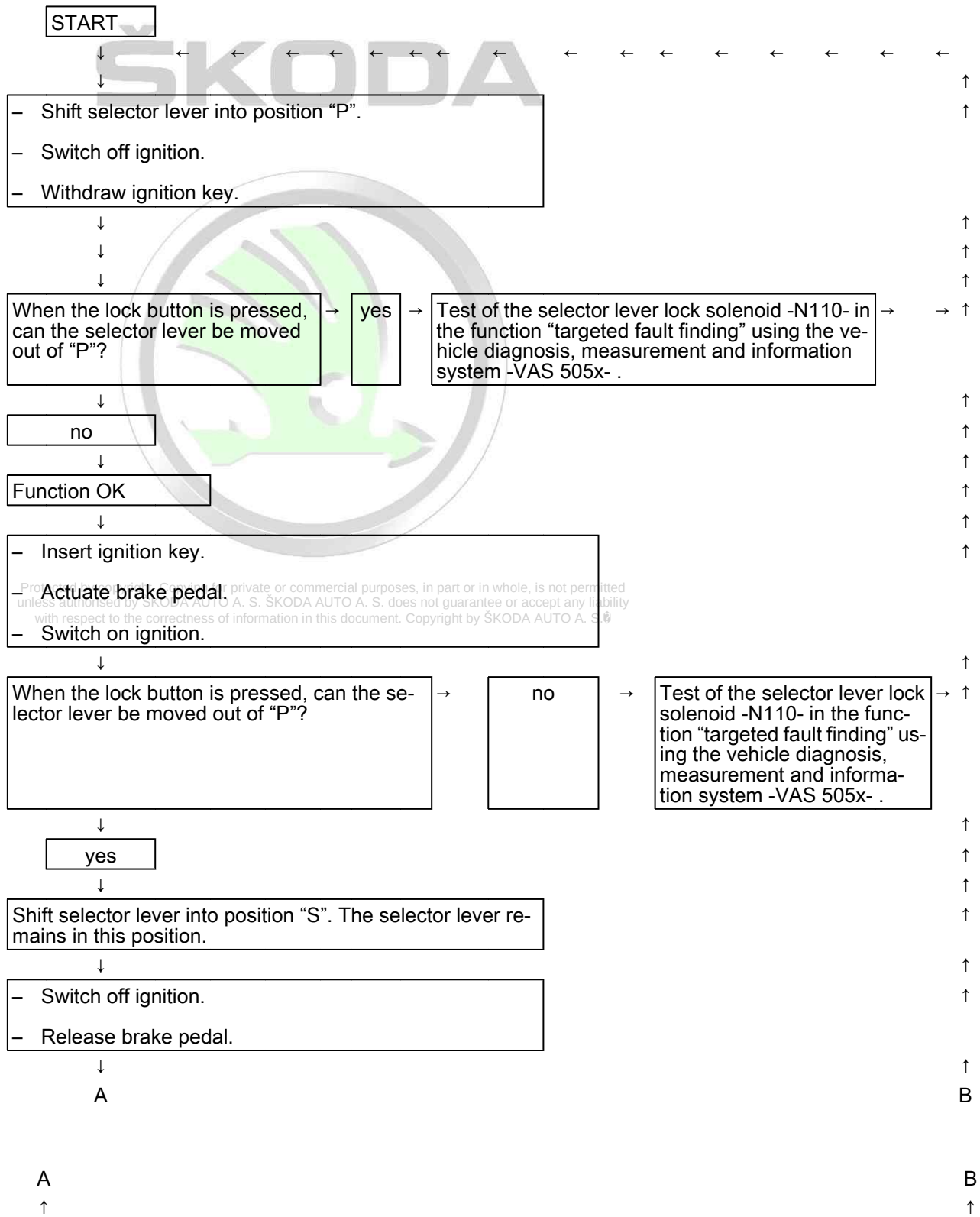
Inspect setting of selector lever control cable

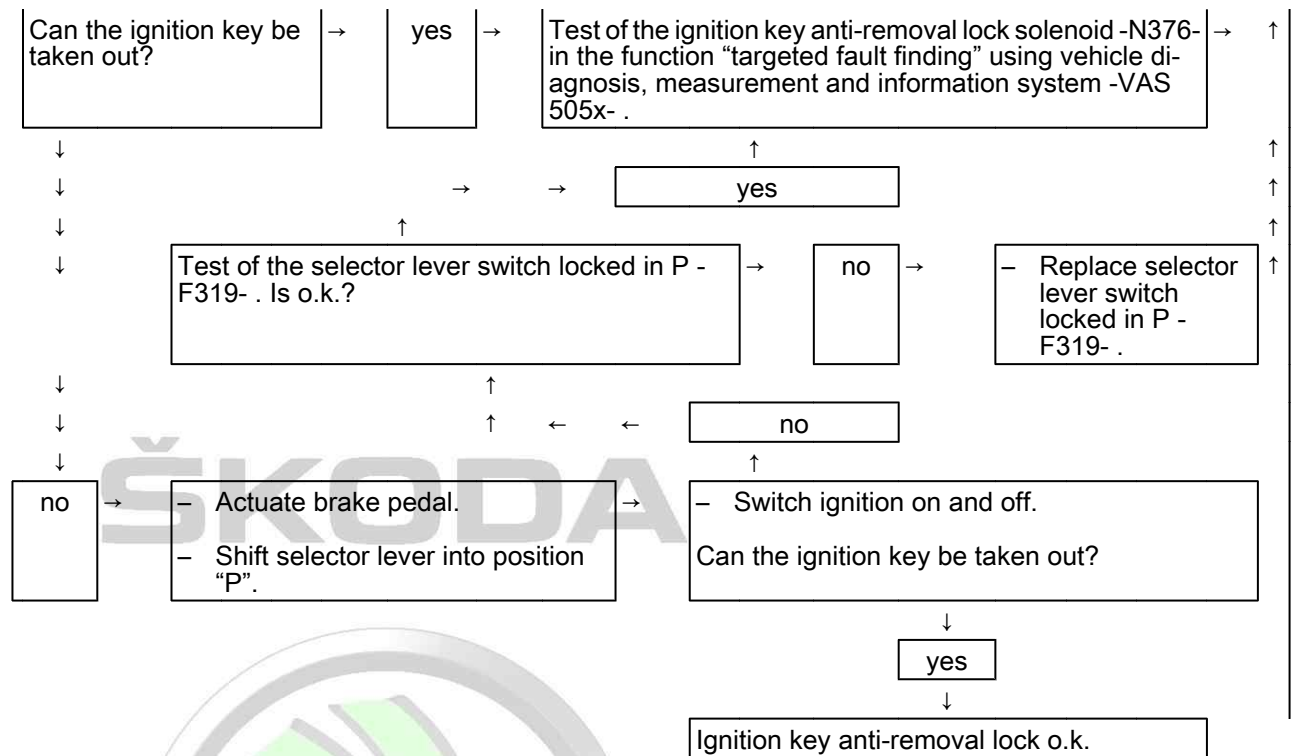
- Pull selector lever out of position "P" with the button pressed, approx. 5 mm to the rear and hold, do not shift into position "R".
- Release the selector lever.
- The selector lever must automatically jump back again into the position "P"
- If necessary adjust the selector lever ⇒ [page 66](#) .
- Shift selector lever to position "N".
- Pull selector lever out of position "N" with the button pressed, approx. 5 mm to the rear and hold, do not shift into position "D".
- Release the selector lever.
- The selector lever must automatically jump back again into the position "N"
- If necessary adjust the selector lever ⇒ [page 66](#) .
- Pull selector lever out of position "N" with the button pressed, approx. 5 mm to the front and hold, do not shift into position "R".
- Release the selector lever.
- The selector lever must automatically jump back again into the position "N"
- If necessary adjust the selector lever ⇒ [page 66](#) .
- Inspect gearshift mechanism ⇒ [page 64](#) .

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- Install filter housing and air mass meter -G70- , mount electrical plug connections, fasten ventilation hose with retaining clip
⇒ Engine; Rep. Gr. 23 or ⇒ Engine; Rep. Gr. 24 .
- Install engine cover ⇒ engine; Rep. Gr. 10 .

9.3 Check operation of the ignition key anti-removal lock





9.4 Summary of components - Shift mechanism up to 05.09 ("old shifting")

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**1 - Cover with handle**

- ☐ for the emergency release only the cover needs to be unclipped
⇒ [page 82](#)
- ☐ the symbol insert and the circuit board with the lamp for selector lever scale illumination - L101- are integrated in the cover
- ☐ removing ⇒ [page 72](#)

2 - Open worm-type clamp

- ☐ replace ⇒ Electronic Catalogue of Original Parts
- ☐ tighten using hose binding claw -V.A.G 1275-

3 - Selector lever and shift mechanism

- ☐ with selector lever lock solenoid -N110-
- ☐ Emergency release
⇒ [page 82](#) .
- ☐ removing and installing
⇒ [page 74](#)
- ☐ after the installation adjust the selector lever control cable ⇒ [page 65](#)

4 - Screw with spring, 3 Nm**5 - Bolt**

- ☐ removing ⇒ [page 78](#)
- ☐ do not grease

6 - Lock washer

- ☐ always replace after removing ⇒ Electronic Catalogue of Original Parts

7 - Nut, 9 Nm

- ☐ 4 pieces

8 - Shift housing

- ☐ with gasket

9 - Lock washer

- ☐ always replace after removing ⇒ Electronic Catalogue of Original Parts
- ☐ when installing make sure that it latches

10 - Lock washer

- ☐ always replace after removing ⇒ Electronic Catalogue of Original Parts

11 - Cable support

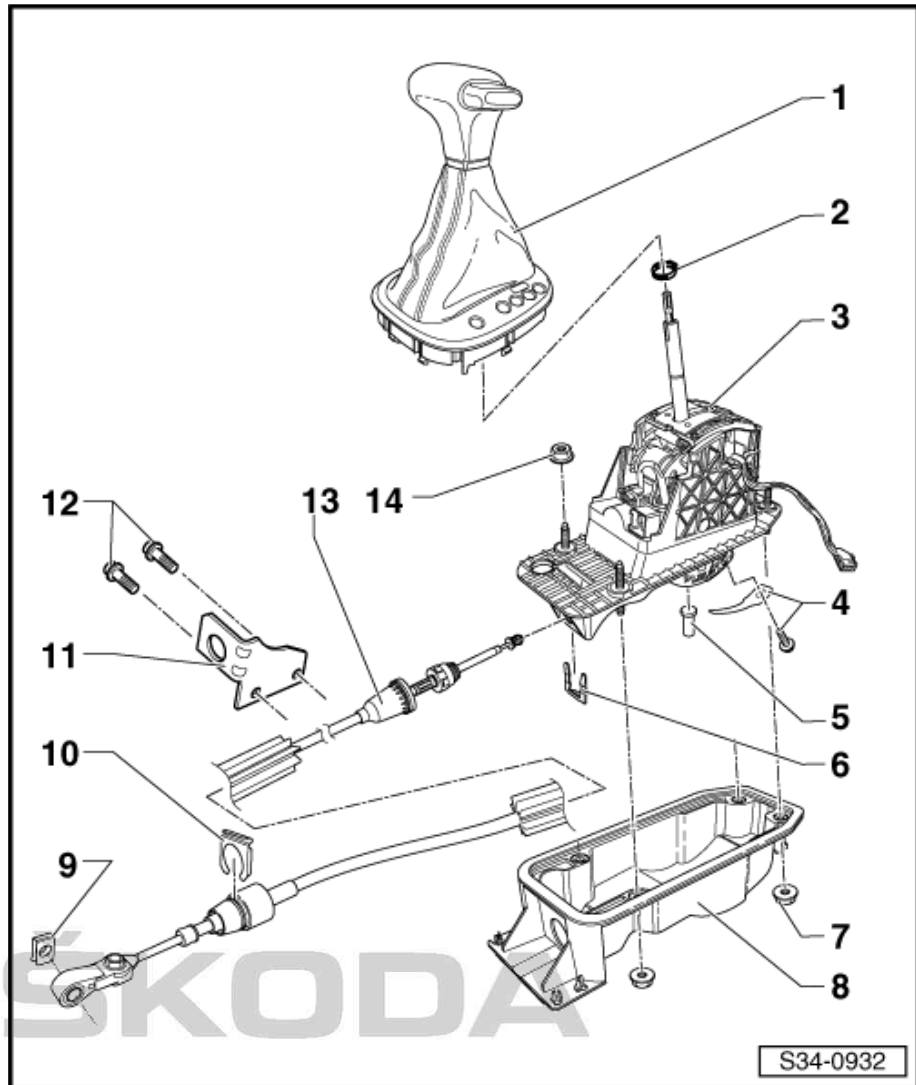
- ☐ for selector lever control cable

12 - Screw, 20 Nm + torque a further 90° (1/4 turn)

- ☐ replace ⇒ Electronic Catalogue of Original Parts
- ☐ 2 pieces
- ☐ for attaching cable support at gearbox housing

13 - Selector lever control cable

- ☐ Do not grease selector lever control cable



- ❑ removing and installing ⇒ [page 78](#)
- ❑ testing and adjusting ⇒ [page 65](#)

14 - Nut, 9 Nm

- ❑ 4 pieces

9.5 Summary of components - Shift mechanism as of 06.09 ("new shifting")



Note

The selector lever control cable was replaced as a separate component part up to vehicle production date 05.09 ("old shifting") ⇒ [page 69](#). As of production date 06.09 ("new shifting") this is no longer possible, the selector lever control cable Pos. 11 must not be removed from the shift mechanism Pos. 3, it must be replaced together as one component part ⇒ *Electronic Catalogue of Original Parts*.

1 - Cover with handle

- ❑ Remove the cover
⇒ [page 72](#)
- ❑ for the emergency re-
lease only the cover
needs to be unclipped
⇒ [page 82](#)
- ❑ the symbol insert and
the circuit board with the
lamp for selector lever
scale illumination -
L101- are integrated in
the cover

2 - Open worm-type clamp

- ❑ always replace ⇒ *Electronic Catalogue of Original Parts*
- ❑ tighten using hose bind-
ing claw -V.A.G 1275-

3 - Selector lever and shift mechanism

- ❑ with selector lever lock
solenoid -N110-
- ❑ Emergency release
⇒ [page 82](#)
- ❑ removing and installing
⇒ [page 74](#)
- ❑ after the installation ad-
just the selector lever
control cable ⇒ [page 65](#)
- ❑ Remove the shift mech-
anism from the shift
housing ⇒ [page 72](#)

4 - Screw

5 - Shift housing with gasket

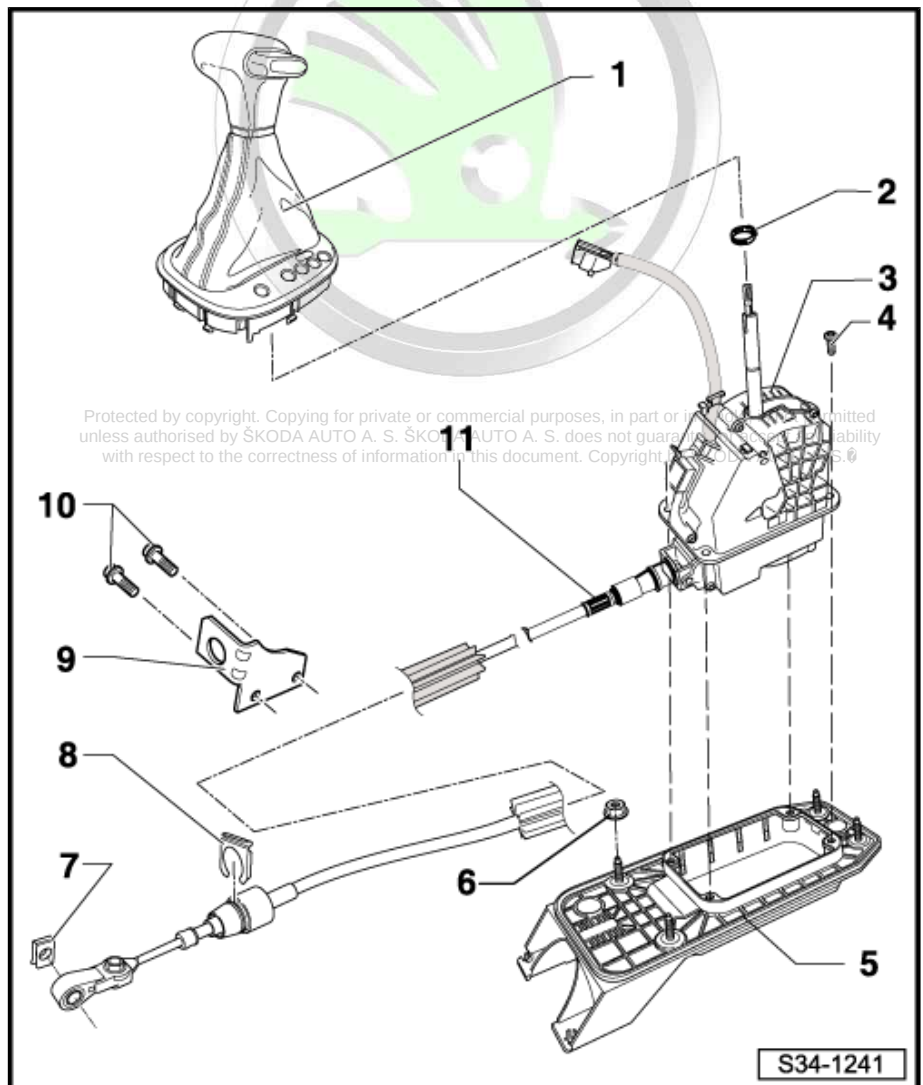
- ❑ Remove shift housing ⇒ [page 72](#)

6 - Nut, 25 Nm

- ❑ 4 pieces

7 - Lock washer

- ❑ always replace after removing ⇒ *Electronic Catalogue of Original Parts*



- ☐ when installing make sure that it latches

8 - Lock washer

- ☐ always replace after removing ⇒ Electronic Catalogue of Original Parts

9 - Cable support

- ☐ for selector lever control cable

10 - Screw, 20 Nm + torque a further 90° (1/4 turn)

- ☐ replace ⇒ Electronic Catalogue of Original Parts
- ☐ 2 pieces
- ☐ for attaching cable support at gearbox housing

11 - Selector lever control cable



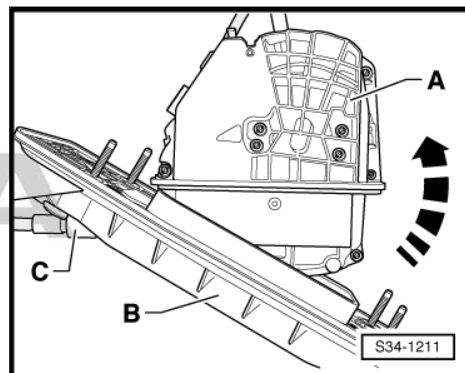
Note

The selector lever control cable must not be removed from the shift mechanism Pos. 3, it must be replaced together as one component part ⇒ Electronic Catalogue of Original Parts .

- ☐ Do not grease selector lever control cable
- ☐ remove from the shift housing and install ⇒ [page 72](#)
- ☐ testing and adjusting ⇒ [page 65](#)

Remove the shift mechanism together with the selector lever control cable from the shift housing

Remove the shift mechanism -A- together with the selector lever control cable -C- from the shift housing -B- in -direction of arrow-. To do so, unscrew 4 screws Pos. 4 (fig. S34-1241 ⇒ [page 71](#)).



9.6 Removing and installing the handle and cover for the shift mechanism

Special tools and workshop equipment required

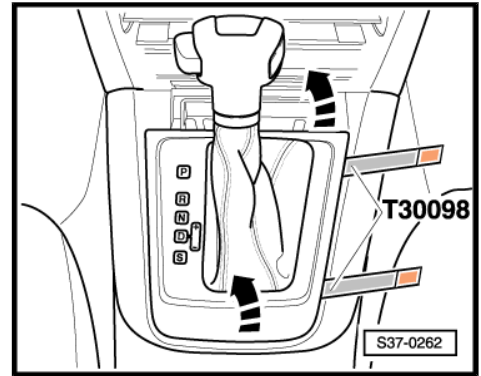
- ◆ Hose binding claw -např. V.A.G 1275-
- ◆ Release tool -T30098-

9.6.1 Removing

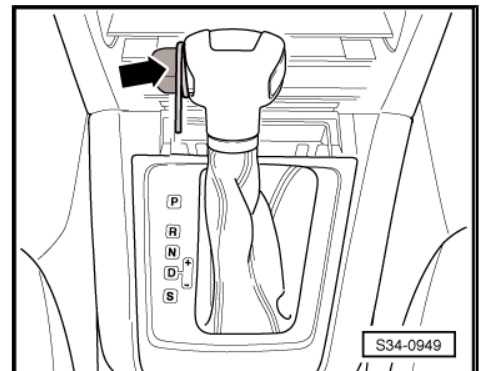
- Push selector lever into position "N".
- Switch off ignition.
- Open ashtray in the centre console.

- Release the front right cover -arrow- using the release tool -T30098-. Then release the rear right and centre cover -arrow-.

Carefully slacken the cover.



- Before removing the handle pull out lock button over its pressure point and secure it with a cable strap or a suitable wire. This can prevent that the lock button is inadvertently pressed into the handle.

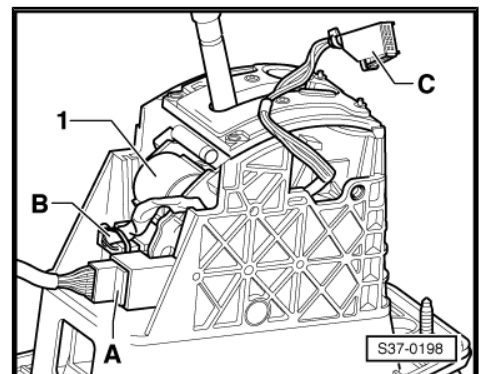


- Release the plug -C- from the lamp for selector lever scale illumination -L101- and disconnect.

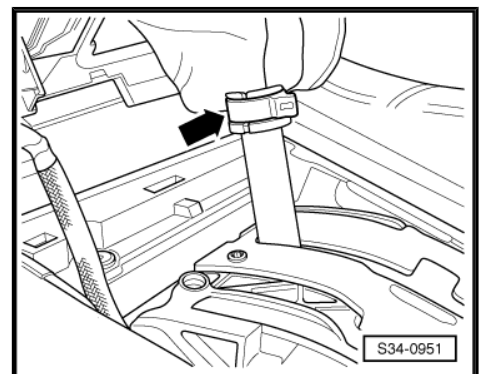


Note

- ◆ Ignore pos. -A-, -B- and -1-.
- ◆ As of production date 06.09 the shift mechanism is changed, the 4-pin plug connection -B- and the selector lever lock solenoid -N110- -1- are already located in the shift mechanism ⇒ [page 71](#).



- Open the warm-type clamp -arrow- below the handle and pull off handle with cover.



9.6.2 Install

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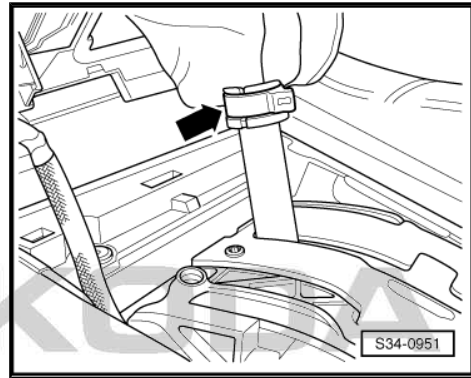
Installation is performed in the reverse order, pay attention to the following points:

**Note**

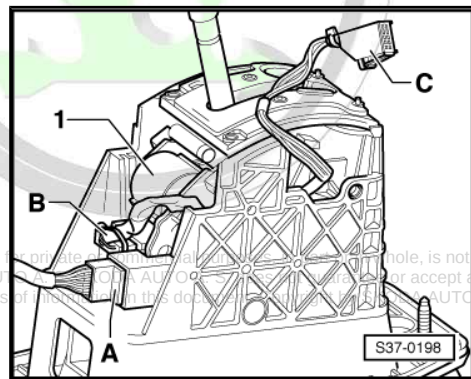
- ◆ *The lock button must be fully pulled out for installing the selector lever grip. Then the grip must be secured using a cable strap -arrow- or with the factory-delivered assembly aid for the new grip.*
- ◆ *If the lock button was not inadvertently secured, it must not be pulled out of the selector lever grip using mechanical auxiliary tools. Position a compressed air pistol at the bottom on the grip and press out the lock button with compressed air.*
- Fit the selector lever grip completely onto the selector lever with a new warm-type clamp - the lock button points to the driver.
- During this procedure, the grip must latch in the annular groove of the selector lever.
- Remove the cable strap or the assembly aid. After the removal, the lock button actuator grips into the vertical groove of the selector lever, if necessary press the lock button into the selector lever grip.

Tighten warm-type clamp using hose binding claw .

- Mount plug -C- for lamp for selector lever scale illumination - L101- .

**Note**

- ◆ *When mounting the plug -C- ensure that the contact pins of the lamp for selector lever scale illumination -L101- are not bent and that the retaining lugs of the cover do not break off.*
- ◆ *Ignore pos. -A-, -B- and -1-.*
- ◆ *As of production date 06.09 the shift mechanism is changed, the 4-pin plug connection -B- and the selector lever lock solenoid -N110- -1- are already located in the shift mechanism ⇒ [page 71](#) .*



9.7 Removing and installing shift mechanism

Special tools and workshop equipment required

- ◆ Pliers for spring strap clips , e.g. -VAS 6340-

9.7.1 Removing

- Removing the handle and cover for the shift mechanism ⇒ [page 72](#) .
- Shift selector lever into position "P".
- Switch off ignition.

**Note**

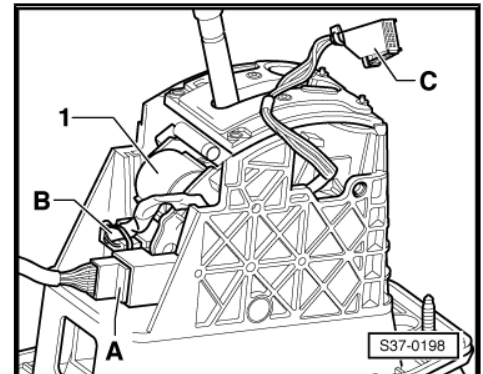
If the battery earth strap is disconnected and connected, carry out certain additional operations ⇒ Electrical System; Rep. Gr. 27 .

- Disconnect the battery-earth strap with the ignition off ⇒ Electrical System; Rep. Gr. 27 .

- Remove ashtray or storage area in front of the shift mechanism ⇒ Body Work; Rep. Gr. 68 .
- Remove the centre console and air guide ⇒ Body Work; Rep. Gr. 68 .
- Pull out the plug connector housing of the plug connection -A- towards the front.
- Disconnect plug connection -A- from the shift mechanism to the vehicle wiring harness.

i Note

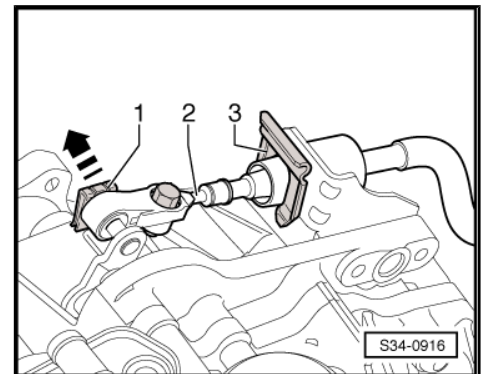
- ◆ Ignore pos. -B-, -C- and -1-.
- ◆ As of production date 06.09 the shift mechanism is changed, the 4-pin plug connection -B- and the selector lever lock solenoid -N110- -1- are already located in the shift mechanism ⇒ [page 71](#) .



- Remove engine cover ⇒ engine; Rep. Gr. 10 .
- Remove air filter ⇒ Engine; Rep. Gr. 24 or ⇒ Rep. Gr. 23 .
- Release lock washer -1- and remove to the top.
- Remove lock washer -3- towards the top.
- Press off the selector lever control cable -2- from the lever/ gearshift shaft in -direction of arrow- and place on top.

i Note

- ◆ The lock washer for the selector lever control cable -3- must always be replaced ⇒ *Electronic Catalogue of Original Parts* .
- ◆ Do not bend or buckle the selector lever control cable.
- ◆ Do not press the selector lever control cable out of the cable support towards the rear. The selector lever control cable is only guided out of the cable support when removing the gearshift mechanism.



- Raise vehicle.





- Remove the rear tunnel bridge -1- and the front tunnel bridge -2- from the body (if present).
- Detach the bracket -3- for the exhaust system from the assembly carrier.
- Release double clamp -4-.

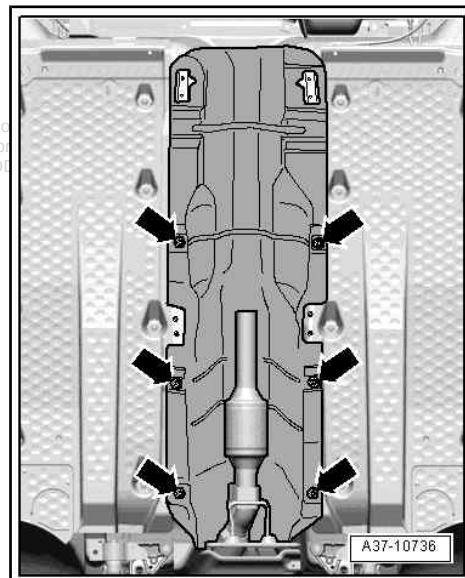
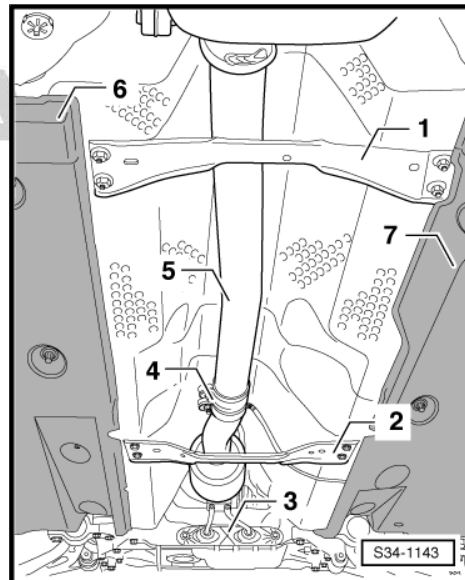
**Note**

- ♦ *The decoupling element in the pre-exhaust pipe should not be bent by more than 10° - risk of damage.*
- ♦ *A second mechanic is needed to remove the rear part of the exhaust system.*
- Remove the rear part of the exhaust system -5- from the double clamp ⇒ Engine; Rep. Gr. 26 .
- Slacken the trim panels for the underfloor on left -6- and right -7- from the body.
- Unclip the cable of the lambda probe at the heat shield.
- Remove the heat shield below the shift mechanism towards the rear, to do so slacken the clips -arrows-.

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A second mechanic is needed under the vehicle to remove the shift mechanism.

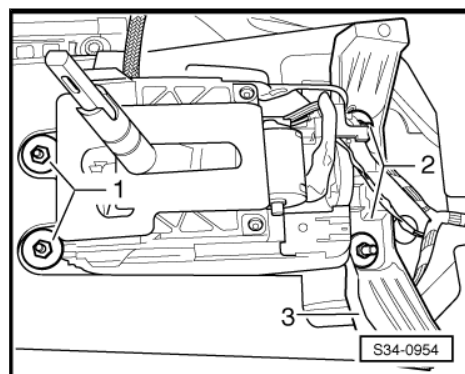


- Unscrew nuts -1- and -2-.
- Remove the shift mechanism together with the selector lever control cable downwards. Thus, guide the selector lever control cable out of the gearshift mechanism.

**Note**

Do not bend or buckle the selector lever control cable.

The shift mechanism (only vehicles up to production date 05.09 "old shifting" ⇒ [page 69](#)) can also be replaced without the selector lever control cable, to do so the selector lever control cable must be separated from the shift mechanism, remove the selector lever control cable ⇒ [page 78](#) .



9.7.2 Install

Installation is carried out in the reverse order. Pay attention to the following:



Note

Do not bend or buckle the selector lever control cable.

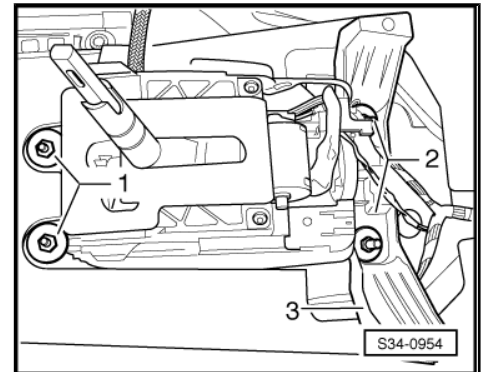
- Insert the shift mechanism and tighten the rear nuts -1- by hand.
- Mount the strut for centre console -3- onto the shift mechanism as illustrated in the fig.
- Tighten nuts -1- and -2- to tightening torque.

Tightening torques of screws or nuts as well as the instruction, if the screws or nuts have to be replaced:

- ◆ Vehicles up to production date 05.09 ("old shifting")
⇒ [page 69](#)
- ◆ Vehicles as of production date 06.09 ("new shifting")
⇒ [page 71](#)

The fitting together of the plug connection -A- must not be performed, if the plug connector housing is latched into the shift mechanism. When fitting together (high resistance because of the spring) the catch of the plug connector housing breaks off.

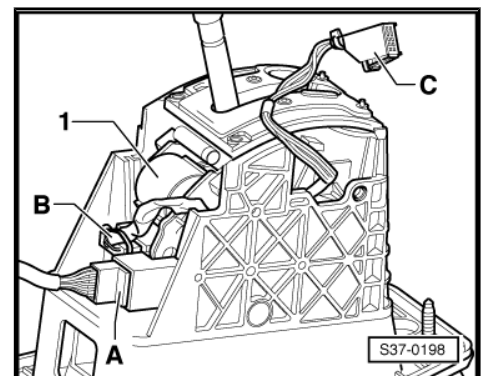
- Connect plug -A- and plug connector housing and then latch into the shift mechanism.



Note

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As of production date 06.09 the shift mechanism is changed, the 4-pin plug connection -B- and the selector lever lock solenoid -N110- -1- are already located in the shift mechanism
⇒ [page 71](#).



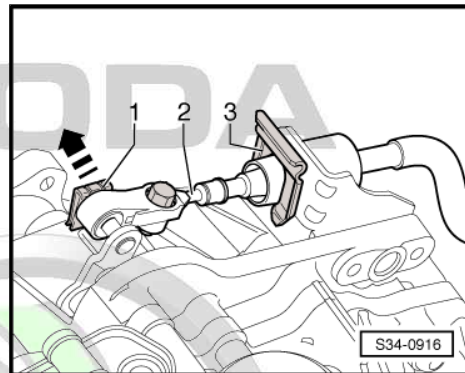
- Install the air guide and the centre console ⇒ Body Work; Rep. Gr. 68.
- Install ashtray or storage area in front of the shift mechanism
⇒ Body Work; Rep. Gr. 68.
- Installing the handle and cover for the shift mechanism
⇒ [page 72](#).



- Install new lock washer -1- and new lock washer for selector lever control cable -3-.

**Note**

- ♦ *The lock washer for the selector lever control cable -3- and the lock washer -1- must always be replaced ⇒ Electronic Catalogue of Original Parts .*
- ♦ *Do not bend or buckle the selector lever control cable.*
- Connect earth strap of battery ⇒ Electrical System; Rep. Gr. 27 .

**Note**

If the battery earth strap is disconnected and connected, carry out certain additional operations ⇒ Electrical System; Rep. Gr. 27 .

- Check operation of the ignition key anti-removal lock ⇒ [page 68](#)
- Setting selector lever control cable ⇒ [page 65](#) .
- Install filter housing and air mass meter -G70- , mount electrical plug connections, fasten ventilation hose with retaining clip ⇒ Engine; Rep. Gr. 23 or ⇒ Engine; Rep. Gr. 24
- Inspect gearshift mechanism ⇒ [page 64](#) .
- Install the heat shield and the trim panels for the underfloor ⇒ Body Work; Rep. Gr. 66 .
- Install exhaust system and align free of stress ⇒ Engine; Rep. Gr. 26 .
- Install tunnel bridges below the exhaust system ⇒ Engine; Rep. Gr. 26 .
- Install the noise insulation ⇒ Body Work; Rep. Gr. 50 .

9.8 Removing and installing the selector lever control cable

Special tools and workshop equipment required

- ♦ Pliers for spring strap clips , e.g. -VAS 6340-

**Note**

The selector lever control cable was replaced as a separate component part up to vehicle production date 05.09 ("old shifting") ⇒ [page 69](#) . As of production date 06.09 ("new shifting") this is no longer possible, the selector lever control cable must not be removed (separated) from the shift mechanism, it must be replaced together as one component part ⇒ Electronic Catalogue of Original Parts .

9.8.1 Removing

- Shift selector lever into position "S".

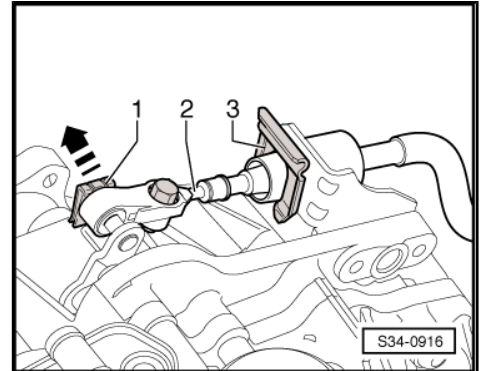
Vehicles up to production date 05.09 ("old shifting")

- Switch off ignition.

- Remove engine cover ⇒ engine; Rep. Gr. 10 .
- Remove air filter ⇒ Engine; Rep. Gr. 24 or ⇒ Rep. Gr. 23 .
- Release lock washer -1- and remove to the top.
- Remove lock washer -3- towards the top.
- Press off the selector lever control cable -2- from the lever/ gearshift shaft in -direction of arrow- and place on top.

i Note

- ◆ *The lock washer for the selector lever control cable -3- and the lock washer -1- must always be replaced ⇒ Electronic Catalogue of Original Parts .*
- ◆ *Do not bend or buckle the selector lever control cable.*

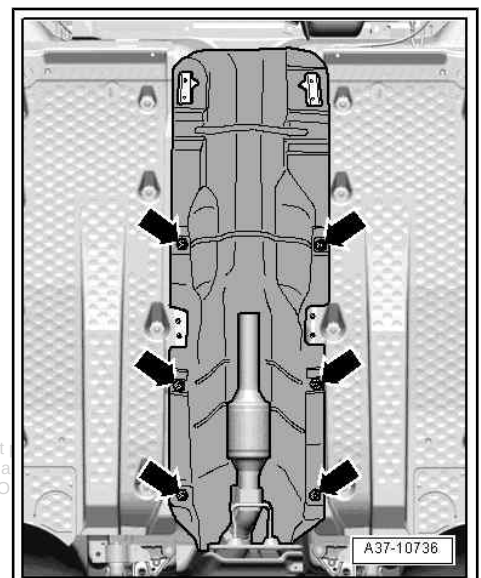
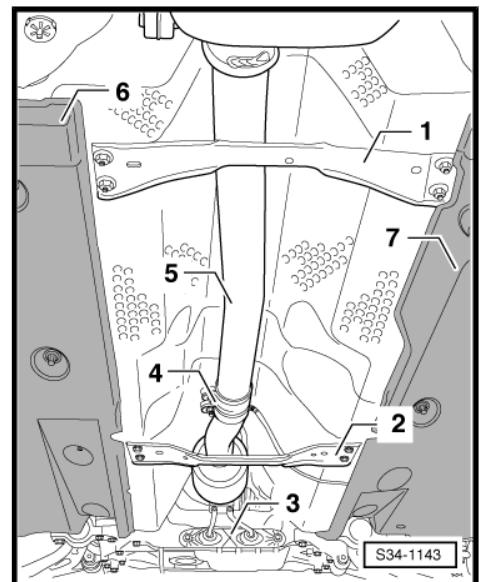


- Raise vehicle.
- Remove the rear tunnel bridge -1- and the front tunnel bridge -2- from the body (if present).
- Detach the bracket -3- for the exhaust system from the assembly carrier.
- Release double clamp -4-.

i Note

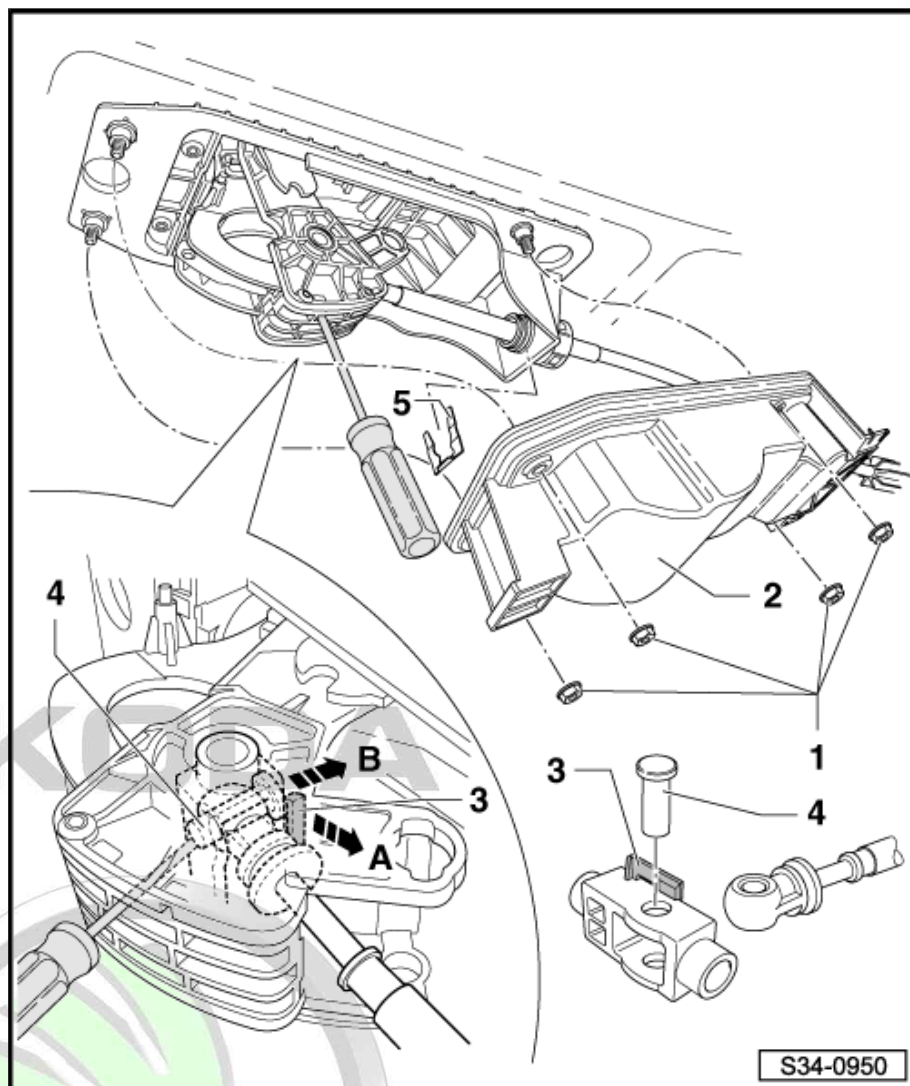
- ◆ *The decoupling element in the pre-exhaust pipe should not be bent by more than 10° - risk of damage.*
- ◆ *A second mechanic is needed to remove the rear part of the exhaust system.*

- Remove the rear part of the exhaust system -5- from the double clamp ⇒ Engine; Rep. Gr. 26 .
- Slacken the trim panels for the underfloor on left -6- and right -7- from the body.
- Unclip the cable of the lambda probe at the heat shield.
- Remove the heat shield below the shift mechanism towards the rear, to do so slacken the clips -arrows-.





- Unscrew the nuts -1- and push the shift housing -2- as far as possible onto the selector lever control cable towards the front.

**Caution**

- Pull the locking tab -3-, which secures the bolt -4-, carefully in the -direction of arrow A-. At the same time, press the bolt -4- with a screwdriver only as far as necessary in the -direction of arrow B-.

**Note**

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- ◆ Do not break off the locking tab -3-, otherwise the gearshift mechanism must be replaced.
 - ◆ Insert the screwdriver into the right bore hole of the gearshift mechanism and press it against the bolt as shown in the illustration.
 - ◆ This procedure is only possible if the selector lever is shifted into position "S".
 - ◆ Make sure that the pin is not fully pressed out. It is difficult to insert.
- Remove lock washer -5-.

Vehicles as of production date 06.09 ("new shifting")



Note

The selector lever control cable (vehicles as of production date 06.09 "new shifting" ⇒ [page 71](#)) must not be removed from the shift mechanism, it must be replaced as one component part ⇒ *Electronic Catalogue of Original Parts*.

- Remove the shift mechanism together with the selector lever control cable ⇒ [page 74](#).

Continued for vehicles up to production date 05.09 ("old shifting")

- Remove selector lever control cable.

9.8.2 Install

Installation is carried out in the reverse order. Pay attention to the following:



Note

- ◆ *Inspect boot of selector lever control cable for damage; the boot can only be replaced together with the selector lever control cable.*
 - ◆ *Check correct fitting of the boot and do not install the boot twisted.*
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Tightening torques of screws or nuts as well as the instructions, if the screws or nuts have to be replaced ⇒ [page 69](#).

Do not grease ball socket of selector lever control cable and ball head/selector lever.

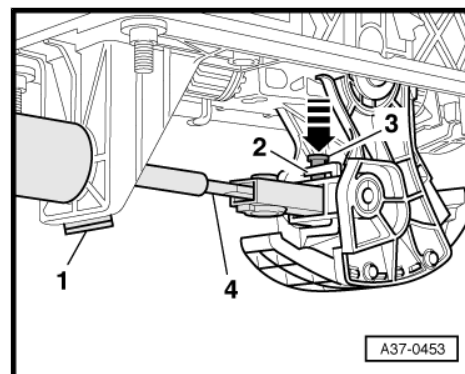
Vehicles up to production date 05.09 ("old shifting")



Caution

- ◆ *Under no circumstances touch the circuit board of the gearshift mechanism with the fingers, because static discharge can destroy the electrical components and the circuit board.*
- ◆ *The circuit board can only be replaced together with the gearshift mechanism!*

- Insert the selector lever control cable with protective cover into the shift housing. At the same time do not damage the boot.
- Insert the end of the selector lever control cable -4- into the joint of the selector lever.
- Press bolt -3- downwards -direction of arrow- and check if the locking tab -2- is locked.
- Insert new lock washer -1- for selector lever control cable.
- Fitting location: with the angled end towards the gearshift mechanism.



- Screw gearshift housing onto gearshift mechanism -arrows- and tighten to tightening torque ➔ [page 69](#) .

Vehicles as of production date 06.09 ("new shifting")



Note

The selector lever control cable (vehicles as of production date 06.09 "new shifting" ➔ [page 71](#)) must not be removed from the shift mechanism, it must be replaced as one component part ➔ Electronic Catalogue of Original Parts .

- Install the shift mechanism together with the selector lever control cable ➔ [page 76](#) .

Continued for all vehicles

- Carefully press the selector lever control cable -2- onto the lever/gearshift shaft at the gearbox against the -direction of arrow-.
- Install new lock washer -1- and new lock washer for selector lever control cable -3-.

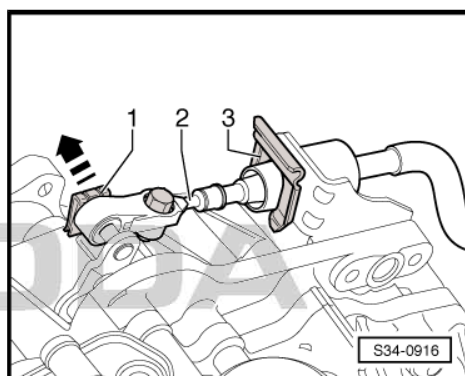
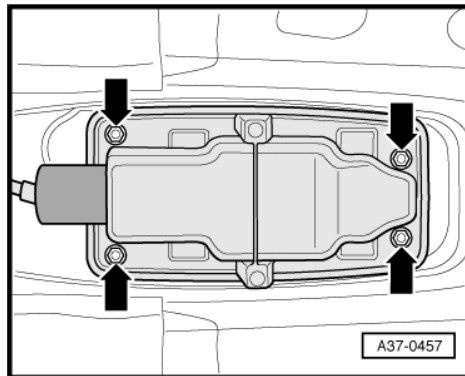


Note

♦ *The lock washer for the selector lever control cable -3- and the lock washer -1- must always be replaced ➔ Electronic Catalogue of Original Parts .*

♦ *Do not bend or buckle the selector lever control cable.*

- Shift selector lever from "S" to "P".
- Gearshift mechanism and selector lever control cable must move smoothly for this purpose.
- Setting selector lever control cable ➔ [page 65](#) .
- Inspect gearshift mechanism ➔ [page 64](#) .
- Install air filter ➔ Engine; Rep. Gr. 23 or ➔ Engine; Rep. Gr. 24 .
- Install exhaust system and align free of stress ➔ Engine; Rep. Gr. 26 .
- Install tunnel bridges below the exhaust system ➔ Engine; Rep. Gr. 26 .
- Install the noise insulation ➔ Body Work; Rep. Gr. 50 .



9.9 Emergency release of gearshift mechanism out of position "P"

The selector lever lock solenoid -N110- locks the selector lever in position "P". The selector lever can only be moved out of "P" when ignition is on or starting the engine, the brake pedal is actuated and the button on the selector lever grip is pressed.

If there are faults in the voltage supply to the selector lever lock solenoid (battery discharged or fuse defective) or in case of defective solenoids, the selector lever cannot be moved out of the position "P"; i.e the vehicle cannot be moved because the parking position is engaged.

If this is the case:

- Test fuse ⇒ Current flow diagrams and Fitting locations.
- Check the battery voltage ⇒ Electrical System; Rep. Gr. 27 .

If the selector lever cannot be moved out of position “P” despite the checks, the emergency release of the solenoids must be performed. If the selector lever is then shifted again into the position “P”, it is blocked again in the position “P”.

9.9.1 Perform emergency release

Special tools and workshop equipment required

- ◆ Release tool -T30098-
- Open ashtray in the centre console.
- Release the front right cover -arrow- using the release tool -T30098- . Then release the rear right and centre cover -arrow-.

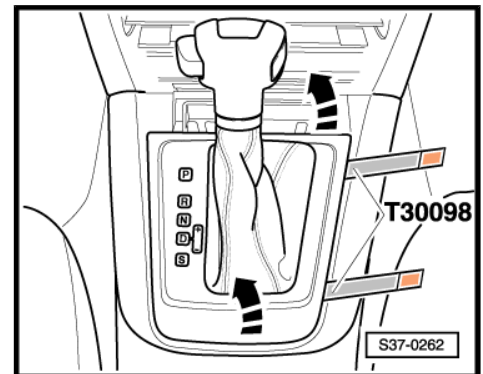
Carefully slacken the cover.



Note

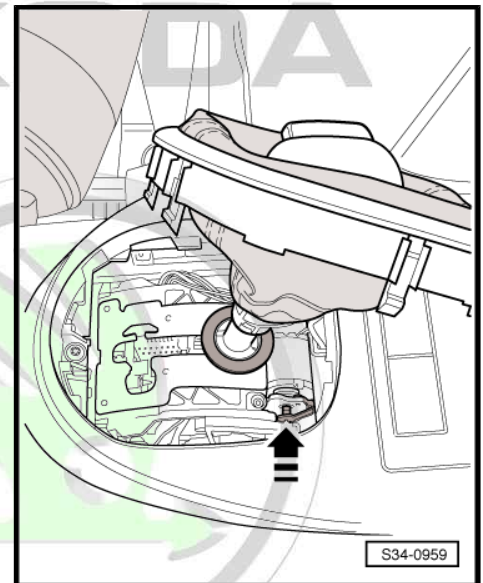
Do not remove grip of selector lever.

- Depress the brake pedal or pull on the handbrake.



Vehicles up to production date 05.09 (“old shifting”)

- Press from right to left -arrow- on the yellow plastic wedge.
- Now press the button on the selector lever grip and shift the selector lever in the direction out of the position “P”.



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Vehicles as of production date 06.09 ("new shifting")

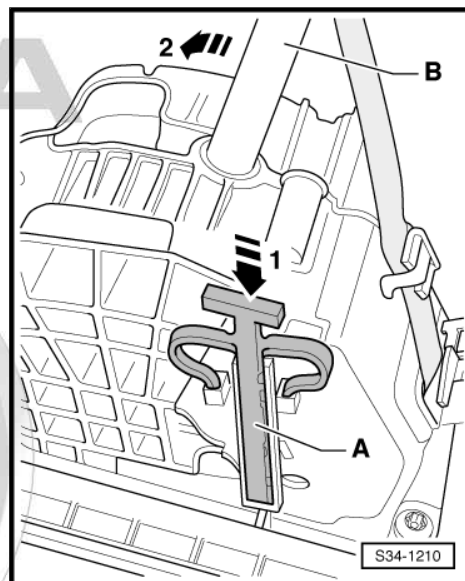
- Press the yellow plastic wedge -A- in -direction of arrow 1-.
- Now press the button on the selector lever grip and shift the selector lever -B- in -direction of arrow 2- out of the position "P".

Continued for all vehicles



Note

If the selector lever is then shifted again into the position "P", it is blocked again in the position "P".



9.10 Removing and installing the Tiptronic switch -F189-

The Tiptronic switch -F189- is integrated firmly in the gearshift mechanism and cannot be replaced separately. If the Tiptronic switch - F189- is defective, the gearshift mechanism must be replaced ⇒ [page 74](#) .

9.11 Removing and installing selector lever lock solenoid -N110-

The selector lever lock solenoid -N110- is integrated firmly in the gearshift mechanism and cannot be replaced separately. If the selector lever lock solenoid -N110- is defective, the gearshift mechanism must be replaced ⇒ [page 74](#) .

9.12 Removing and installing selector lever switch locked in P - F319 -

The selector lever switch locked in P -F319- is integrated firmly in the gearshift mechanism and cannot be replaced separately. If the selector lever switch locked in P -F319- is defective, the gearshift mechanism must be replaced ⇒ [page 74](#) .

9.13 Removing and installing the selector lever sensor control unit -J587-

The selector lever sensor control unit -J587- is integrated firmly in the gearshift mechanism and cannot be replaced separately. If the selector lever sensor control unit -J587- is defective, the gearshift mechanism must be replaced ⇒ [page 74](#) .

9.14 Checking the plug connections at the gearshift mechanism

Before repairing or checking the plug connections, try to determine the origin of the damage via the "targeted fault finding" using the ⇒ Vehicle diagnosis, testing and information system VAS 5051.

Before checking the plug connections, all control units in the vehicle should be checked with the ⇒ Vehicle diagnosis, testing and information system VAS 5051, if necessary the faults must be rectified.

- Check plug connections ⇒ Current flow diagrams and Fitting locations.

A - 10-pin plug for connection lines from the gearshift mechanism to the gearbox (with CAN databus lines)

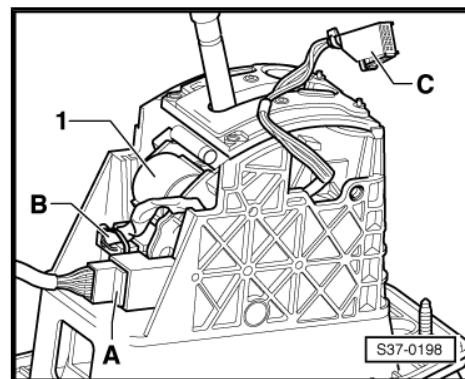
B - 4-pin plug to selector lever lock solenoid -N110- , selector lever sensor control unit -J587- and selector lever switch locked in P - F319-

C - 10-pin plug to lamp for selector lever scale illumination -L101- in the cover for the shift mechanism



Note

*As of production date 06.09 the shift mechanism is changed, the 4-pin plug connection -B- and the selector lever lock solenoid -N110- -1- are already located in the shift mechanism
⇒ [page 71](#) .*



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10 Removing and installing the gearbox

10.1 Removing gearbox (front-wheel drive)

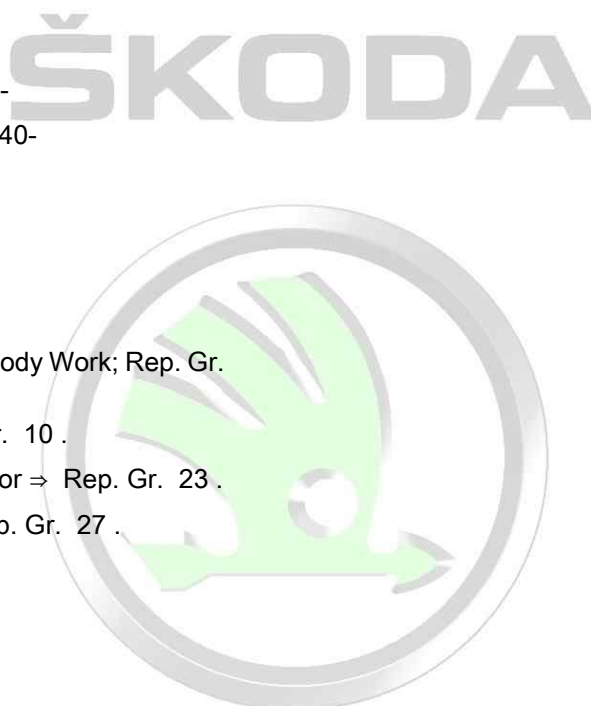


Note

- ◆ *Observe instructions for automatic gearbox DSG - 02E
⇒ [page 12](#).*
- ◆ *General repair information ⇒ [page 12](#).*
- ◆ *Regulations concerning cleanliness when working on the
gearbox ⇒ [page 12](#).*
- ◆ *All cable straps which are detached or cut open when removing,
should be fitted on again in the same place when installing.*
- ◆ *If the battery earth strap is disconnected and connected, carry
out certain additional operations ⇒ Electrical System; Rep.
Gr. 27.*

Special tools and workshop equipment required

- ◆ Supporting device -T30099-
 - ◆ Surface -T30099/1-
 - ◆ Hook -MP9-200/10-
 - ◆ Hose clamp -MP7-602 (3094)-
 - ◆ Gearbox mount -3282-
 - ◆ Bolt -3282/29-
 - ◆ Tensioning strap -T10038-
 - ◆ Adjusting plate -3282/42A-
 - ◆ Engine/gearbox jack , e.g. -V.A.G 1383 A-
 - ◆ Pliers for spring strap clips , e.g. -VAS 6340-
 - ◆ Socket insert -T10035-
 - ◆ High-temperature grease -G 052 133 A2-
 - ◆ Grease -G 000 100-
 - Shift selector lever into position "P".
 - Remove the cooling water tank cover ⇒ Body Work; Rep. Gr. 66 .
 - Remove engine cover ⇒ engine; Rep. Gr. 10 .
 - Remove air filter ⇒ Engine; Rep. Gr. 24 or ⇒ Rep. Gr. 23 .
 - Remove battery ⇒ Electrical System; Rep. Gr. 27 .
 - Remove battery tray.
- Do not release screw -B-.

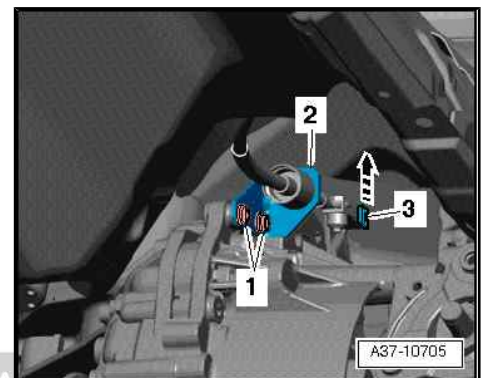
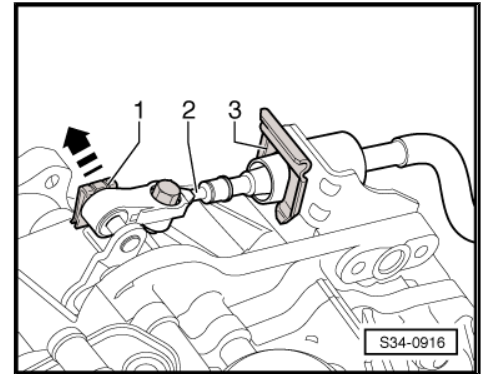


- Release lock washer -1- and remove to the top.
- Remove lock washer -3- towards the top.
- Press off the selector lever control cable -2- from the lever/ gearshift shaft in -direction of arrow- and slightly press out of the cable support towards the rear.

i Note

- ◆ *The lock washer for the selector lever control cable -3- and the lock washer -1- must always be replaced ⇒ Electronic Catalogue of Original Parts .*
- ◆ *Do not bend or buckle the selector lever control cable.*
- ◆ *The selector lever control cable is guided out of the cable support when removing the gearbox.*

If the lock washer cannot be removed without damaging the selector lever control cable, it is also possible to remove the cable support -2- (unscrew screws -1-).

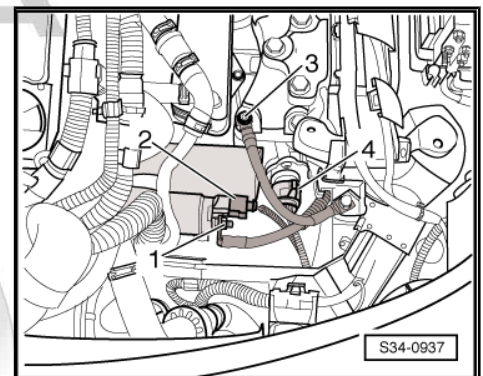


- Pull back the protective collar and unscrew the cable -1- at the solenoid switch.
- Separate plug connection -2- at the solenoid switch.
- Remove the earth lead -3- from the fixing screw for the gearbox console.



Caution

Under no circumstances must the plug contacts in the plug of the gearbox be touched with the hands, because the control unit can be destroyed through static discharge as well as the mechatronics.



- Grab with the hand (without gloves) at the mass, in order to discharge yourself electrostatically.
- Unlock the cap of the plug -4- by turning it to the left and disconnect the plug from the gearbox.
- Remove the screws from the starter and take them off.

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- Unscrew all connecting screws of the engine/gearbox -1, 2 and 4- accessible from the top. To this end, use if necessary the socket insert -T10035- .

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Note

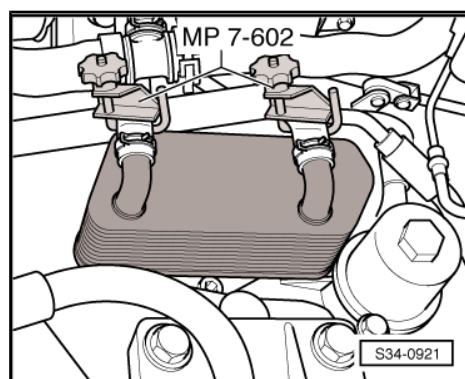
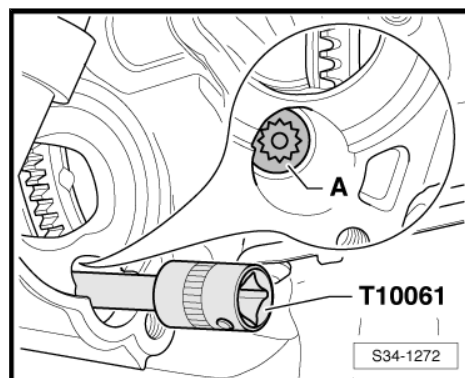
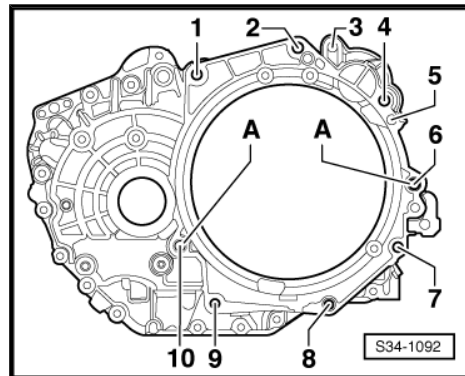
- ♦ The screws -3 and 5- attach the starter at the gearbox.
- ♦ The screw Pos. 4, which is marked as -A- in the fig., is located in the starter opening and is only accessible after removing the starter. Screw out this screw using the socket insert XZN 14 - T10061- .



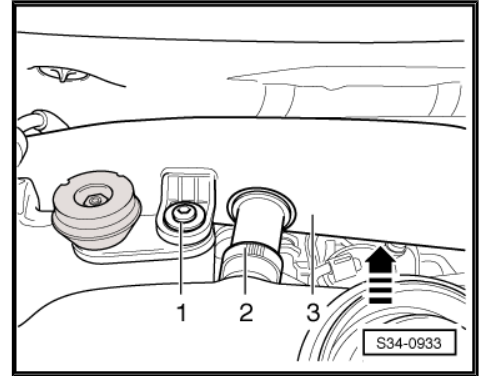
WARNING

Hot steam may escape after the compensation bottle is opened. Cover the cap with a cloth and open carefully.

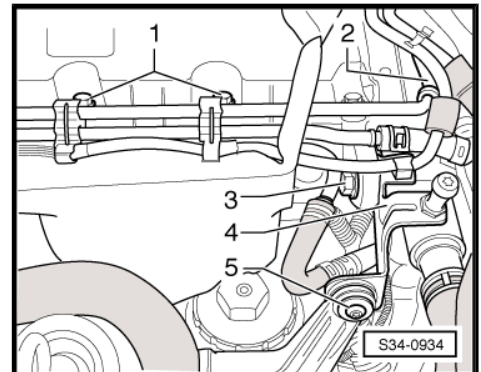
- When the engine is warm the cooling system is under pressure. Slowly open the cap of the compensation bottle, in order to first reduce pressure before pulling off the coolant hoses.
- Do not place fluffing cloths on the gearbox oil cooler and the gearbox, in order to collect flowing out coolant.
- Mark the coolant hoses to the gearbox oil cooler in order to prevent interchanging when installing.
- Pinch off coolant hoses with hose clamps -MP7-602 (3094)- and remove hoses from gearbox oil cooler.
- Close gearbox oil cooler with a clean plug.



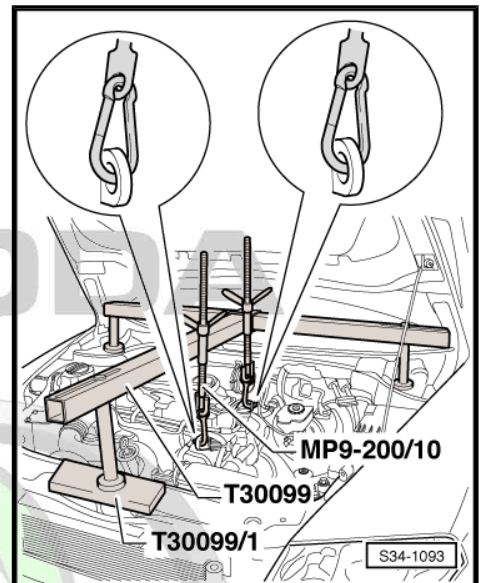
- Unscrew screw -1- from rear intake hose -3- and release pipe -2- from secondary air injection system and disconnect.



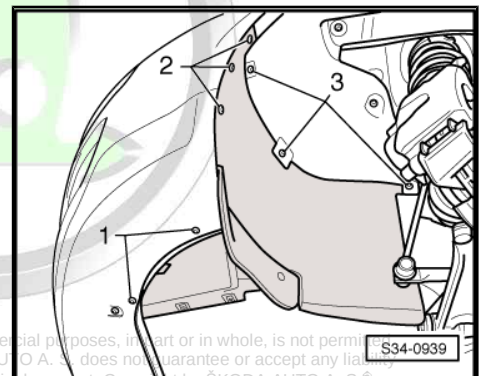
- Remove bracket of coolant pipes and fuel at valve cover. To do so release screws -1-.
- Remove fuel hose -2- on the tandem pump. Collect escaping fuel with a cloth.
- Close fuel hose -2- of tandem pump with a clean plug.
- Unscrew screws -3- and -5- and remove bracket -4-.



- Mount the support fixture -T30099- on the spring domes.
- Hang the spindles of the support fixture on the left and right engine lifting eye.
- Pre-tension the engine with the spindles, do not raise.
- Loosen the front wheel bolts.
- Raise vehicle ⇒ Maintenance ; Octavia II .
- Remove front wheels.
- Remove the sound dampening system ⇒ Body Work; Rep. Gr. 50 .



- Release screws -1- to -3- and remove the complete cover of the left wheelhouse liner.

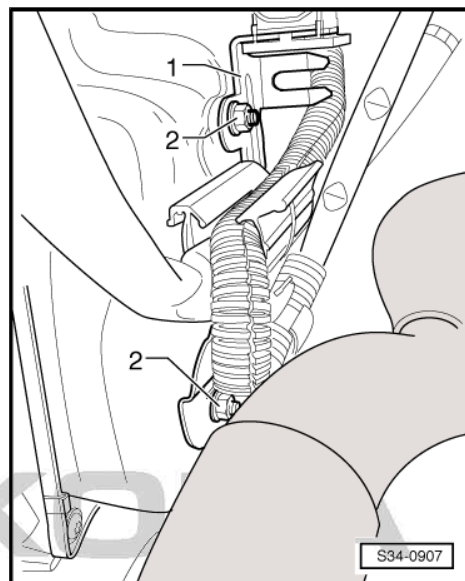




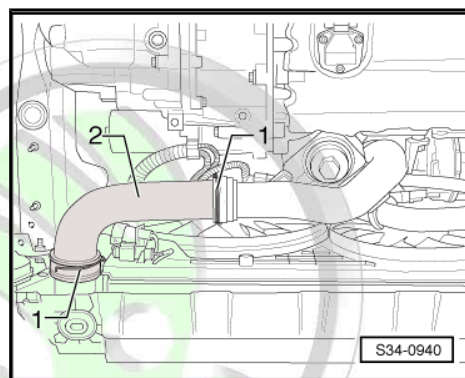
- Unscrew nuts -2- from bracket -1- on the oil pan and remove bracket from the threaded bores at the oil pan.

**Note**

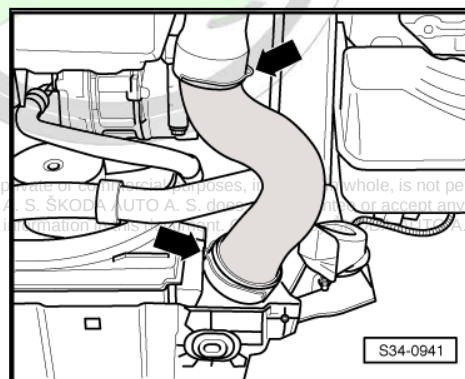
- ◆ *The threaded bores are welded at the front of the gearbox to the oil pan.*
- ◆ *Unscrew the lower nut from below, after the noise insulation was removed.*



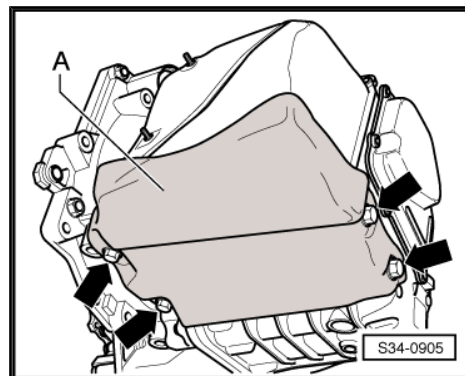
- Remove the air guide hose -2-. To do so slightly raise the retaining clips -1- and pull the air guide hose from the pipes.



- Remove the air guide hose on the right. To do so slightly raise the retaining clips -arrows- and pull the air guide hose from the pipes.

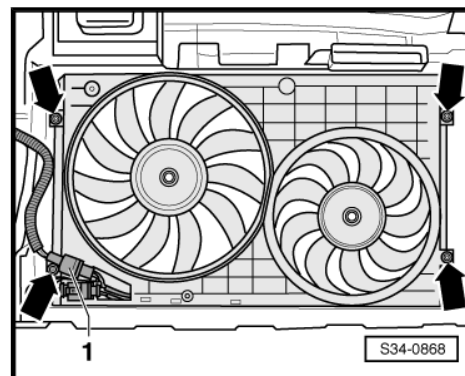


- If fitted, remove protection plate -A- at the gearbox -arrows-.

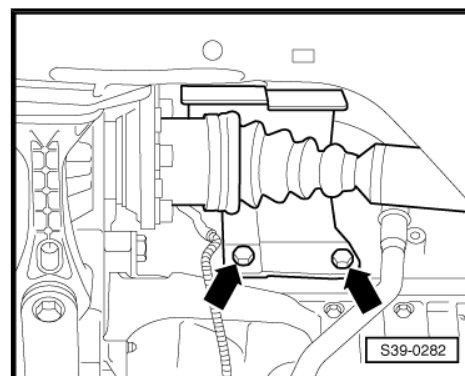


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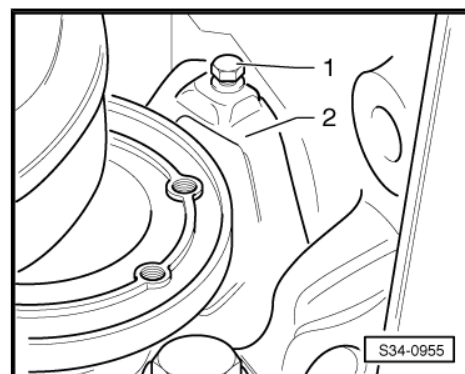
- Unplug connector -1-.
- Release screws -arrows- and take out the fan shroud downwards ⇒ Engine; Rep. Gr. 19 .



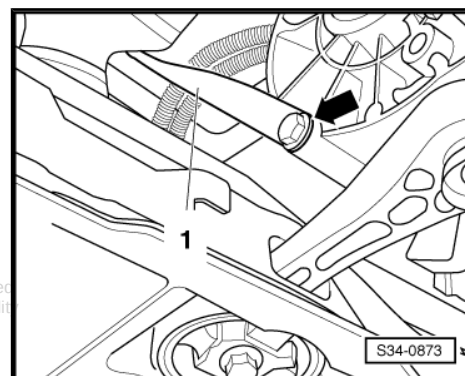
- Remove protective cap for right drive shaft from the engine -arrows- (if present).



- Unscrew screw -1- and remove small cover plate -2- for fly-wheel.



- Unscrew strut for pre-exhaust pipe -1- ⇒ Engine; Rep. Gr. 26 .



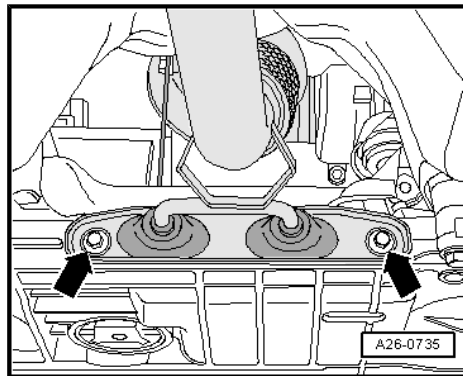
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- Separate exhaust system at the clamping sleeve and remove bracket for the exhaust system from the assembly carrier -arrows- ➔ Engine; Rep. Gr. 26 .
- Tie up pre-exhaust pipe.

**Note**

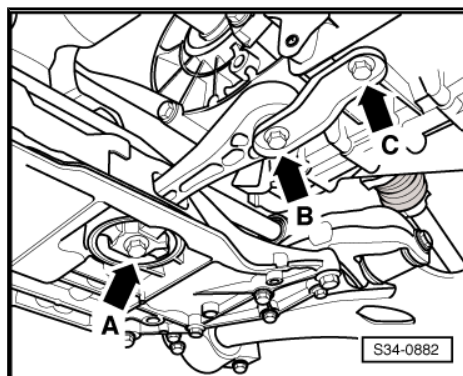
The decoupling element in the pre-exhaust pipe should not be bent by more than 10° - risk of damage.



- Remove pendulum support from gearbox, to do so release bolts -arrow B- and -arrow C-.

**Note**

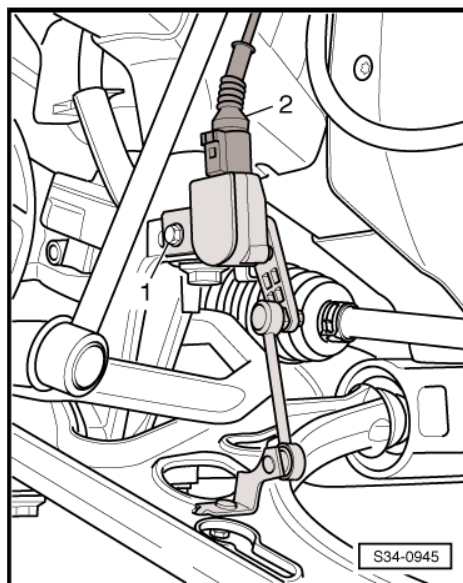
Do not release screw -arrow A-. The pendulum support is removed together with the assembly carrier.



- If present, disconnect the electrical plug connection -2- at front left vehicle level sensor -G78- .
- Release screw -1-.
- Fix the assembly carrier before removing ➔ Chassis; Rep. Gr. 40 .

**Note**

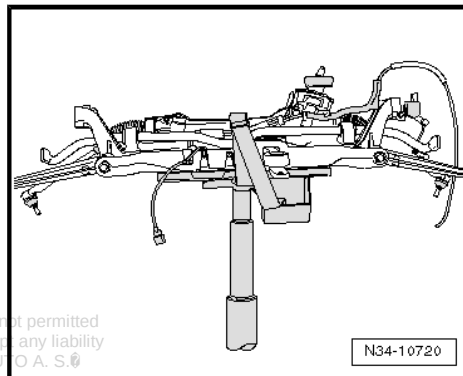
If the assembly carrier is not fixed, an axial measurement must later be carried out.



- Remove the assembly carrier with pendulum support, both track control arms and steering ➔ Chassis; Rep. Gr. 40 .

Vehicles with diesel particle filter:

- Remove particle filter with bracket for particle filter ➔ Engine; Rep. Gr. 26 .

Continued for all vehicles:

- Release plug -1- from oil level and oil temperature sender - G266- and loosen the wiring loom from the bracket -2- (if present).
- Remove the drive shaft on left and right from the flange shaft of the gearbox or the right drive shaft from the flange of the intermediate shaft ⇒ Chassis; Rep. Gr. 40 .

For vehicles with intermediate shaft:

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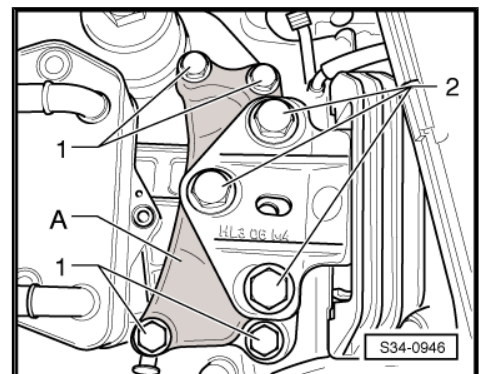
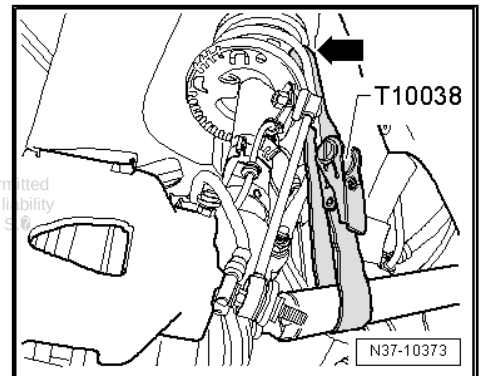
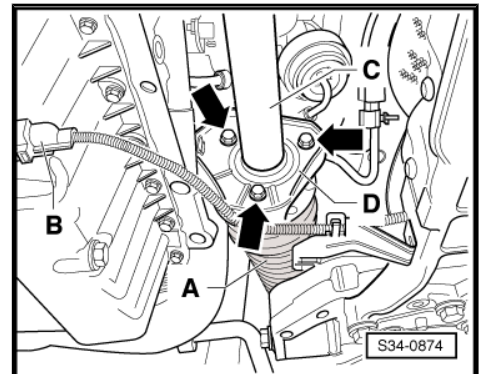
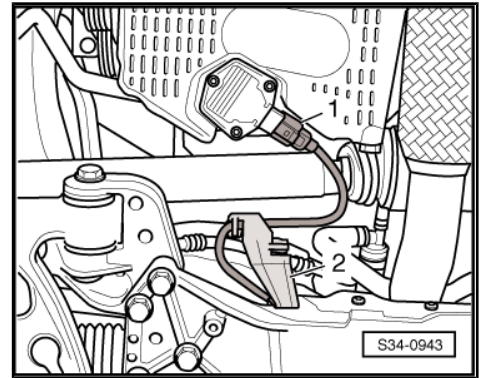
- Remove right intermediate shaft -C- from bracket -D- -arrows- and pull off from the rigid shaft of the gearbox.

Continued for all vehicles:

- Tie up the right drive shaft as far as possible and place the left drive shaft to the rear and secure (while doing so do not damage the surface protection).

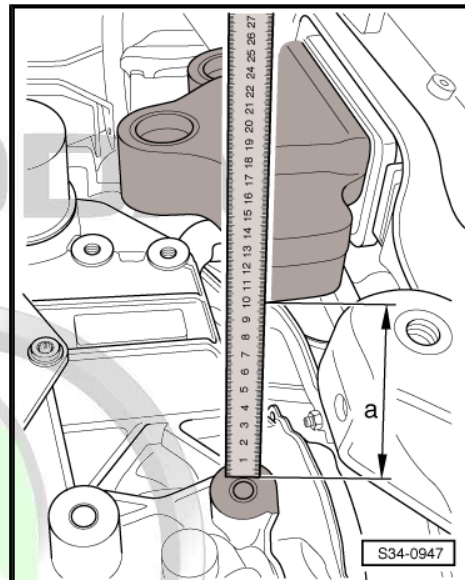
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- Release screws -1- and -2-.
- Lower the engine/gearbox assembly alternately at the spindles of the support fixture -T30099- by 4 turns.
- Remove console -A-.

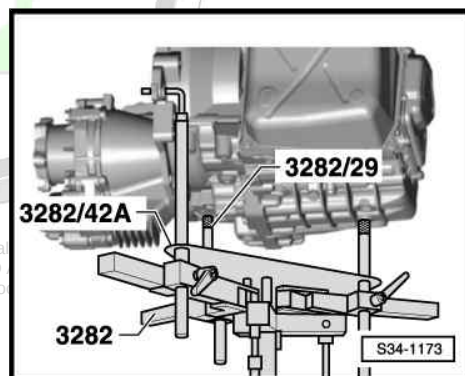


- Lower the engine/gearbox assembly alternately at the spindles of the support fixture -T30099- uniformly, until the dimension -a- is adjusted between the gearbox housing and the gearbox mounting.
- Dimension -a- = 100 ... 110 mm

For the removal of the gearbox 02E the gearbox mount -3282- is aligned with the adjusting plate -3282/42A- and placed on the engine/gearbox jack -V.A.G 1383 A- .



- Align arms of the gearbox mount to match the holes in the adjusting plate -3282/42A- .
- Screw in the mounting elements as shown on adjusting plate -3282/42A- .
- Position the engine/gearbox jack -V.A.G 1383 A- below the vehicle. The arrow symbol on the adjusting plate -3282/42- points in the direction of travel.
- Align the gearbox mount -3282- parallel to the gearbox. ŠKODA AUTO with respect to the correctness of information in this document.
- Secure mount with screw -1- at gearbox.
- Screw the bolt -3282/29- into the gearbox.
- Attach the two other support elements at the gearbox, as shown in the illustration.
- Secure the gearbox with tensioning strap -T10038- on the gearbox mount -3282- .

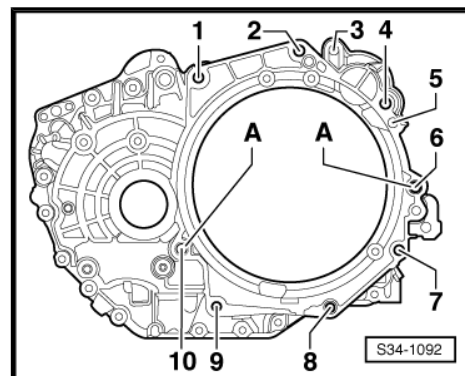


Note

The automatic gearbox DSG - 02E is shown in the illustration "four-wheel drive". The support elements are identical at the "front-wheel drive".

- Support the gearbox by raising the engine/gearbox jack - V.A.G 1383 A- from below.

- Unscrew the remaining connecting screws -6...10- of the engine to the gearbox.
- Press the gearbox out of the dowel sleeves -A-.
- Slightly pull off the gearbox from the engine.
- Lower the gearbox carefully and slightly with the engine/gearbox jack -V.A.G 1383 A-.
- Change the gearbox position at the spindles of the gearbox mount -3282- when lowering.
- When lowering the gearbox, guide the selector lever control cable out of the cable support.



Note

- ◆ *Observe all lines and coolant hoses when lowering the gearbox.*
- ◆ *Do not bend or buckle the selector lever control cable.*

Transport the gearbox and secure it to the assembly stand
⇒ [page 111](#).

10.2 Removing gearbox (four-wheel drive)

Note

- ◆ *Observe instructions for automatic gearbox DSG - 02E*
⇒ [page 12](#).
- ◆ *General repair information* ⇒ [page 12](#).
- ◆ *Regulations concerning cleanliness when working on the gearbox* ⇒ [page 12](#).
- ◆ *All cable straps which are detached or cut open when removing, should be fitted on again in the same place when installing.*
- ◆ *If the battery earth strap is disconnected and connected, carry out additional operations ⇒ Electrical System; Rep. Gr. 27.*

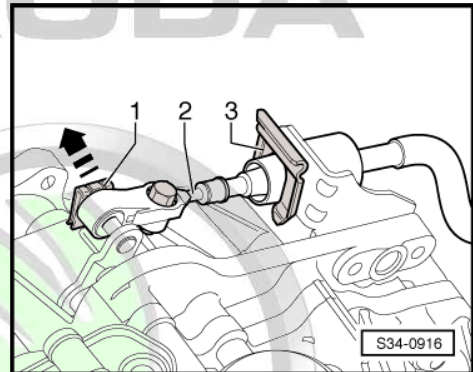
Special tools and workshop equipment required

- ◆ Supporting device -T30099-
- ◆ Surface -T30099/1-
- ◆ Hook -MP9-200/10-
- ◆ Hose clamp -MP7-602 (3094)-
- ◆ Gearbox mount -3282-
- ◆ Bolt -3282/29-
- ◆ Tensioning strap -T10038-
- ◆ Adjusting plate -3282/42A-
- ◆ Engine/gearbox jack , e.g. -V.A.G 1383 A-
- ◆ Pliers for spring strap clips , e.g. -VAS 6340-
- ◆ Socket insert e.g. -T10035 - or socket insert XZN 14 -T10061-
- ◆ High-temperature grease -G 052 133 A2-
- ◆ Grease -G 000 100-

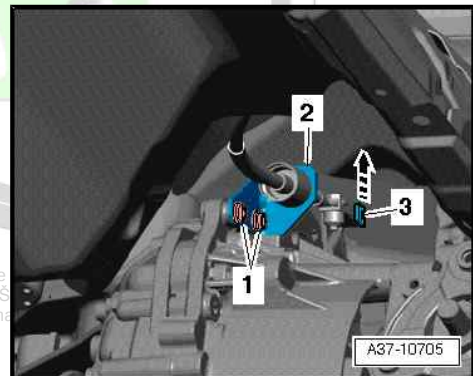
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- Shift selector lever into position “P”.
- Disconnect the battery-earth strap with the ignition off ⇒ Electrical System; Rep. Gr. 27 .
- Remove engine cover ⇒ engine; Rep. Gr. 10 .
- Remove air filter ⇒ Engine; Rep. Gr. 23 .
- Remove battery ⇒ Electrical System; Rep. Gr. 27 .
- Remove battery tray.
- Remove the cooling water tank cover ⇒ Body Work; Rep. Gr. 66 .
- Release lock washer -1- and remove to the top.
- Remove lock washer -3- towards the top.
- Press off the selector lever control cable -2- from the lever/ gearshift shaft in -direction of arrow- and slightly press out of the cable support towards the rear.

**Note**

- ◆ *The lock washer for the selector lever control cable -3- and the lock washer -1- must always be replaced ⇒ Electronic Catalogue of Original Parts .*
- ◆ *Do not bend or buckle the selector lever control cable.*
- ◆ *The selector lever control cable is guided out of the cable support when removing the gearbox.*
- ◆ *If the lock washer cannot be removed without damaging the selector lever control cable, it is also possible to remove the cable support -2- (unscrew screws -1-).*

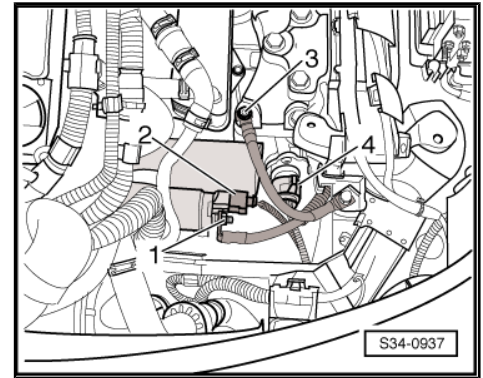


- Pull back the protective collar and unscrew the cable -1- at the solenoid switch of the starter.
- Separate the plug connection -2- at the solenoid switch of the starter.
- Remove the earth lead -3- from the fixing screw for the gearbox console.



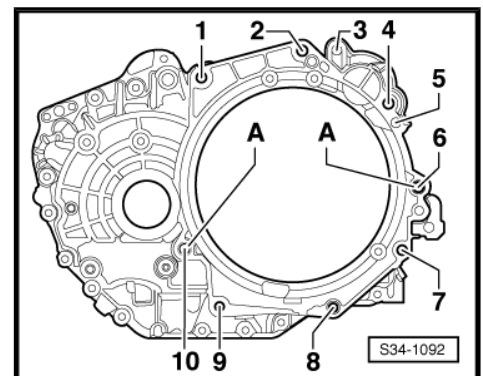
Caution

Under no circumstances must the plug contacts in the plug of the gearbox be touched with the hands, because the control unit can be destroyed through static discharge as well as the mechatronics.



- Grab with the hand (without gloves) at the mass, in order to discharge yourself electrostatically.
- Unlock the cap of the plug -4- by turning it to the left and disconnect the plug from the gearbox.
- Remove the screws from the starter and take them off.
- Unscrew all connecting screws of the engine/gearbox -1, 2 and 4- accessible from the top. To this end, use if necessary the socket insert -T10035-.

The screws -3 and 5- attach the starter at the gearbox.



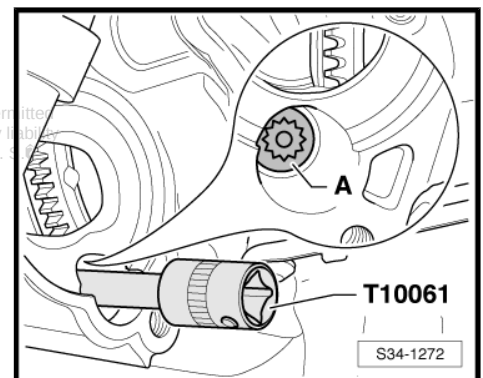
Note

The screw Pos. 4, which is marked as -A- in the fig., is located in the starter opening and is only accessible after removing the starter. Screw out this screw using the socket insert XZN 14 - T10061-.



WARNING

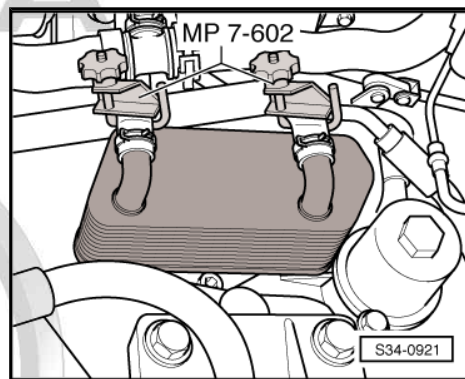
Hot steam may escape after the compensation bottle is opened. Cover the cap with a cloth and open carefully.



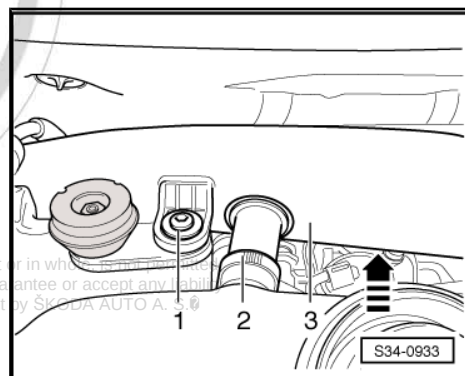
- When the engine is warm the cooling system is under pressure. Slowly open the cap of the compensation bottle, in order to first reduce pressure before pulling off the coolant hoses.
- Do not place fluffing cloths on the gearbox oil cooler and the gearbox, in order to collect flowing out coolant.
- Mark the coolant hoses to the gearbox oil cooler in order to prevent interchanging when installing.



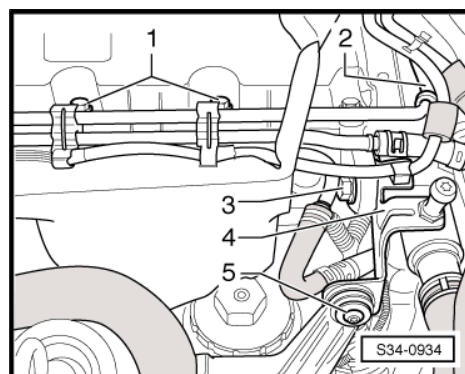
- Pinch off coolant hoses with hose clamps -MP7-602 (3094)- and remove hoses from gearbox oil cooler.
- Close gearbox oil cooler with a clean plug.



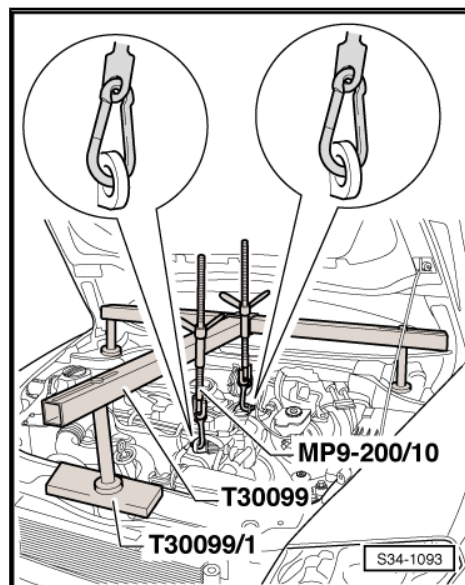
- Unscrew screw -1- from rear intake hose -3- and release pipe -2- from secondary air injection system and disconnect.



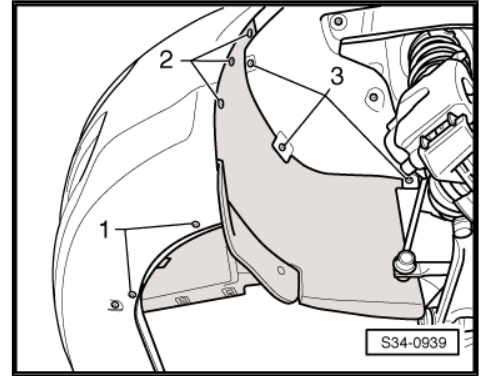
- Remove bracket of coolant pipes and fuel at valve cover. To do so release screws -1-.
- Remove fuel hose -2- on the tandem pump. Collect escaping fuel with a cloth.
- Close fuel hose -2- of tandem pump with a clean plug.
- Unscrew screws -3- and -5- and remove bracket -4-.



- Mount the support fixture -T30099- on the spring domes.
- Hang the spindles of the support fixture on the left and right engine lifting eye.
- Pre-tension the engine with the spindles, do not raise.
- Loosen the front wheel bolts.
- Raise vehicle ⇒ Maintenance ; Octavia II .
- Remove front wheels.
- Remove the sound dampening system ⇒ Body Work; Rep. Gr. 50 .



- Release screws -1- to -3- and remove the complete cover of the left wheelhouse liner.



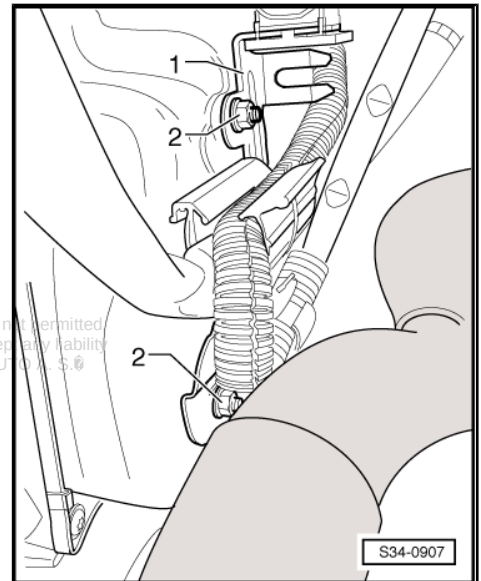
- Unscrew nuts -2- from bracket -1- on the oil pan and remove bracket from the threaded bores at the oil pan.



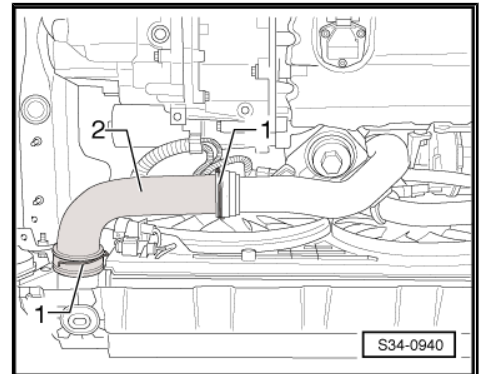
Note

- ◆ *The threaded bores are welded at the front of the gearbox to the oil pan.*
- ◆ *Unscrew the lower nut from below, after the noise insulation was removed.*

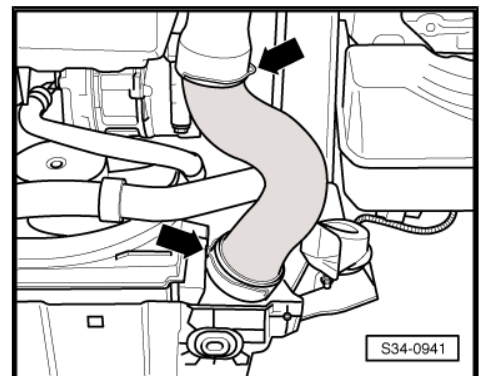
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- Remove the air guide hose -2-. To do so slightly raise the retaining clips -1- and pull the air guide hose from the pipes.

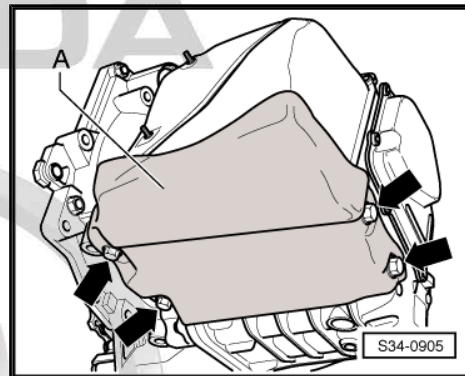


- Remove the air guide hose on the right. To do so slightly raise the retaining clips -arrows- and pull the air guide hose from the pipes.

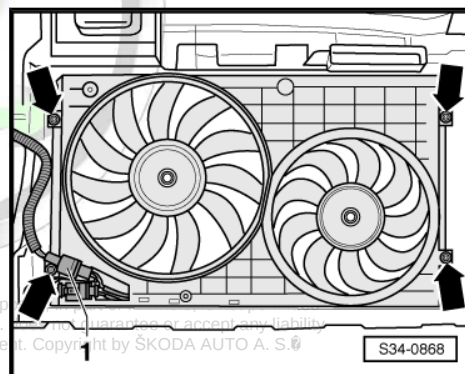




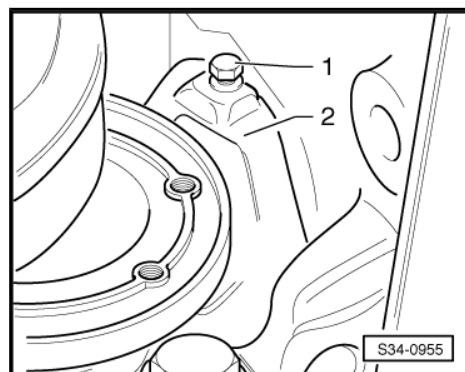
- If fitted, remove protection plate -A- at the gearbox -arrows-.



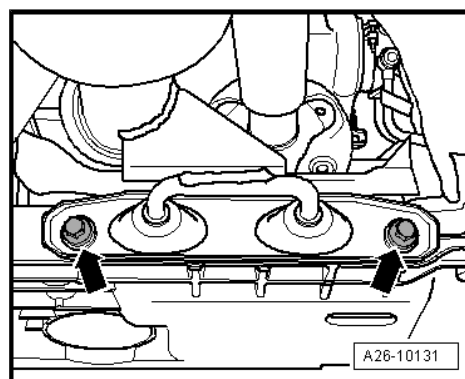
- Unplug connector -1-.
- Release screws -arrows- and take out the fan shroud downwards ⇒ Engine; Rep. Gr. 19 .



- Unscrew screw -1- and remove small cover plate -2- for fly-wheel.
- Remove all supports for exhaust gas system from gearbox and from exhaust pipe ⇒ Engine; Rep. Gr. 26 .



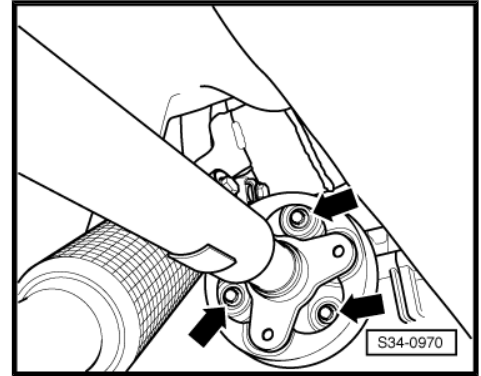
- Separate exhaust system at the clamping sleeve and remove bracket for the exhaust system from the assembly carrier -arrows- ⇒ Engine; Rep. Gr. 26 .
- Tie up pre-exhaust pipe.



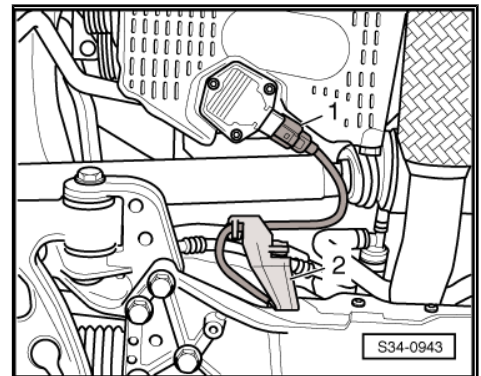
Note

The decoupling element in the pre-exhaust pipe should not be bent by more than 10° - risk of damage.

- Mark the position of the propshaft with flexible disk to the output flange of the angle gearbox.
- Unscrew the propshaft with flexible disk from the output flange of the angle gearbox -arrows-.



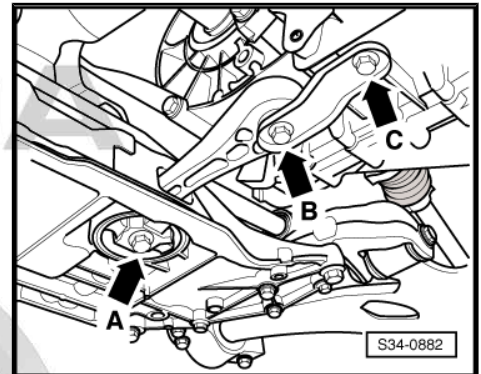
- Release plug -1- from oil level and oil temperature sender - G266- and loosen the wiring loom from the bracket -2- (if present).



- Remove pendulum support from gearbox, to do so release bolts -arrow B- and -arrow C-.

i Note

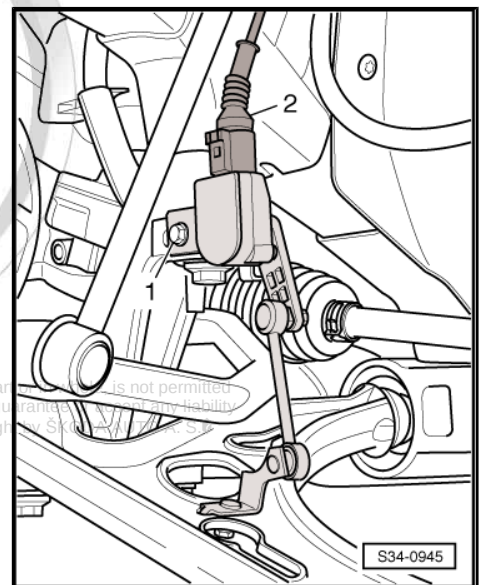
Do not release screw -arrow A-. The pendulum support is removed together with the assembly carrier.



- If present, disconnect the electrical plug connection -2- at front left vehicle level sensor -G78- .
- Release screw -1-.
- Fix the assembly carrier before removing ⇒ Chassis; Rep. Gr. 40 .

i Note

If the assembly carrier is not fixed, an axial measurement must later be carried out.



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- Remove the assembly carrier with pendulum support, both track control arms and steering ⇒ Chassis; Rep. Gr. 40 .

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Note

After removing the pendulum support from the gearbox, the engine/gearbox unit swivels slightly towards the front (direction front). When removing and installing make sure that the gasket ring -arrow- in the flange of the propshaft is not damaged.

- Push engine/gearbox unit forwards and pull off the propshaft from the output flange of the angle gearbox.
- Tie up propshaft.

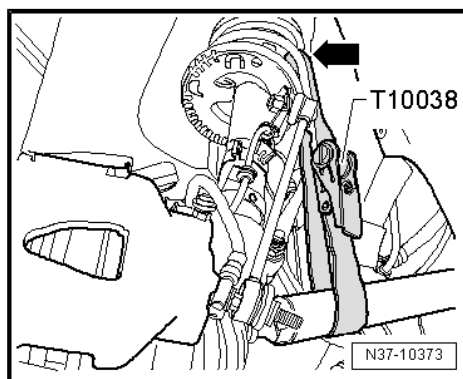
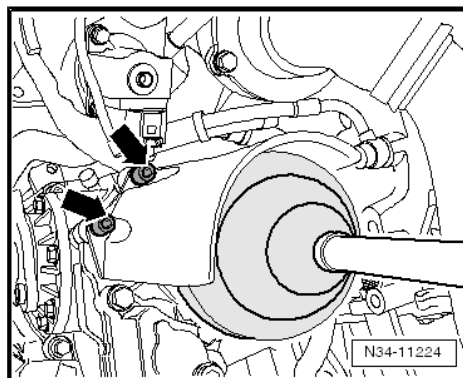
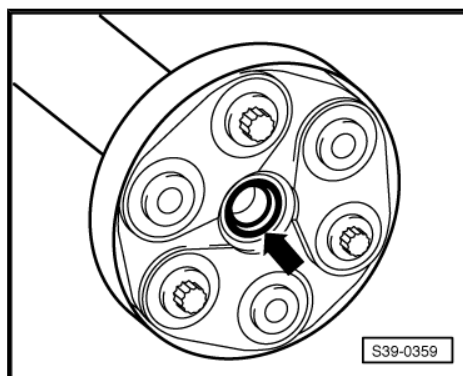
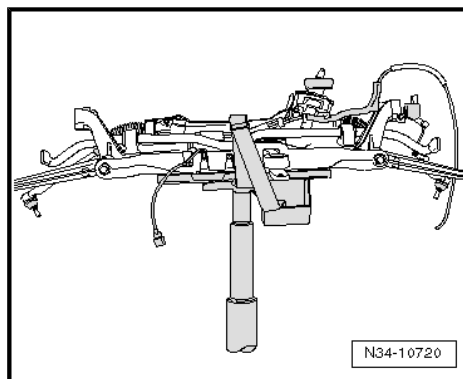
Vehicles with diesel particle filter:

- Remove particle filter with bracket for particle filter ⇒ Engine; Rep. Gr. 26 .

Continued for all vehicles:

- Remove heat shield for right drive shaft from angle gearbox -arrows-.
- Removing the left and right drive shaft from the gearbox ⇒ Chassis; Rep. Gr. 40 .

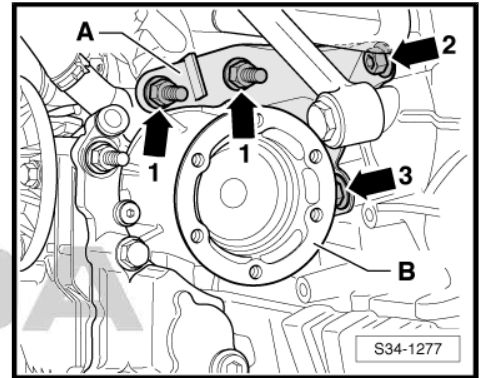
- Tie up the right drive shaft as far as possible and place the left drive shaft to the rear and secure (while doing so do not damage the surface protection).



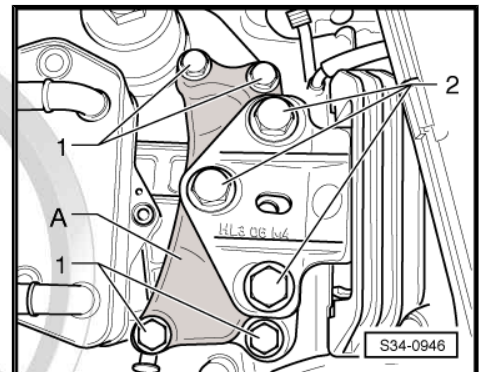
- Release screws -1- from gearbox mount -A- at angle gearbox.
- Only slacken the screws -2- and -3- of the gearbox mount at the engine.

i Note

- ♦ *The screw -3- cannot be fully released as it touches the right flange shaft -B-.*
- ♦ *The gearbox mount can only be removed if the gearbox is removed from the engine.*



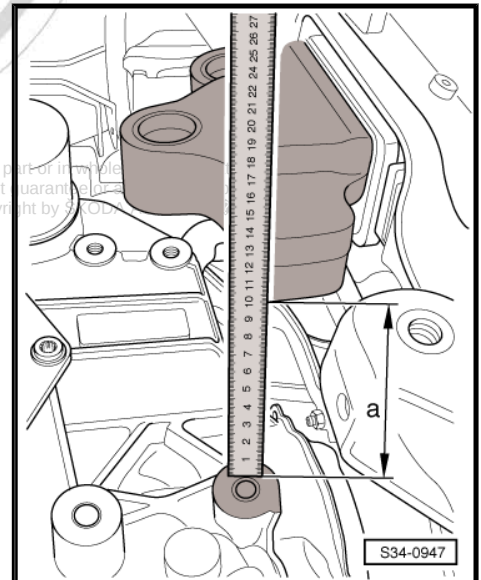
- Screw out screws -1- and -2-.
- Lower the engine/gearbox assembly alternately at the spindles of the support fixture -T30099- by 4 turns.
- Remove console -A-.



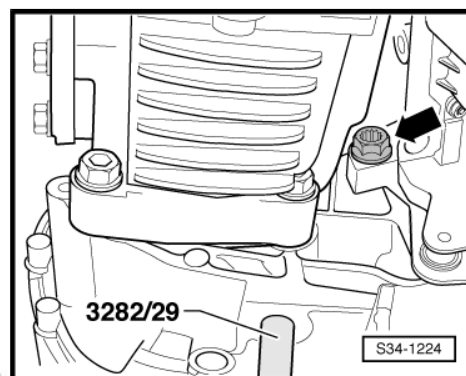
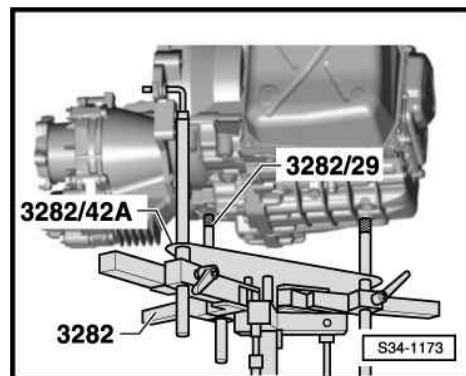
- Lower the engine/gearbox assembly alternately at the spindles of the support fixture -T30099- uniformly, until the dimension -a- is adjusted between the gearbox housing and the gearbox mounting.

- Dimension -a- = 100 ... 110 mm

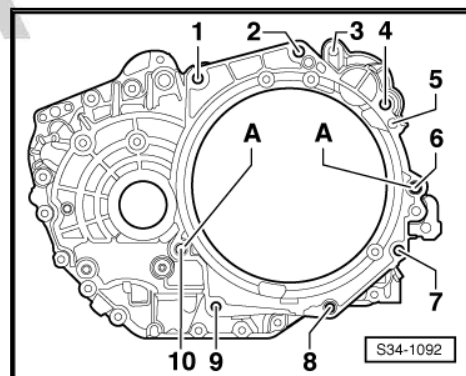
For the removal of the gearbox 02E the gearbox mount -3282- is aligned with the adjusting plate -3282/42A- and placed on the engine/gearbox jack -V.A.G 1383 A- .



- Align arms of the gearbox mount to match the holes in the adjusting plate -3282/42A- .
- Screw in the mounting elements as shown on adjusting plate -3282/42 A- .
- Position the engine/gearbox jack -V.A.G 1383 A- below the vehicle.
- The arrow symbol on the adjusting plate -3282/42 A- points in the direction of travel.
- Align the gearbox mount -3282- parallel to the gearbox.
- Screw the bolt -3282/29- into the gearbox.
- Attach the two other support elements at the gearbox, as shown in the illustration.
- Secure the gearbox with tensioning strap -T10038- to the gearbox mount -3282- .
- Support the gearbox by raising the engine/gearbox jack - V.A.G 1383 A- from below.
- Unscrew the connecting screw of the engine/gearbox -arrow- (Pos.10 fig. S34-1092) next to the angle gearbox.



- Unscrew the remaining connecting screws -6...9- engine to gearbox.
- Press the gearbox out of the dowel sleeves -A- of the engine.
- Pull off the gearbox from the engine by approx. 30 mm.



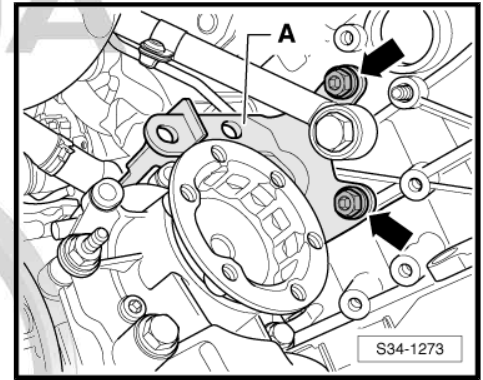
- Unscrew gearbox mount -A- from engine -arrows- and remove.
- Carefully swivel gearbox towards the left frame side rail.
- Lower the gearbox carefully and slightly with the engine/gearbox jack -V.A.G 1383 A-.
- Change the gearbox position at the spindles of the gearbox mount -3282- when lowering.
- When lowering the gearbox, guide the selector lever control cable out of the cable support.



Note

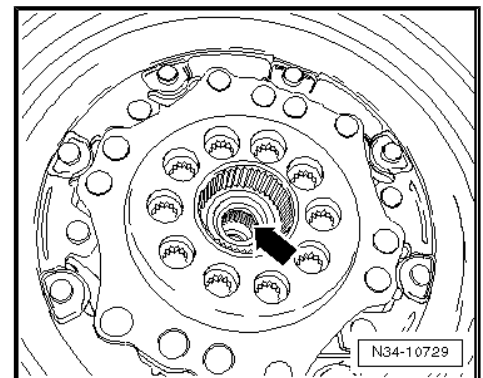
- ◆ *Observe all lines and coolant hoses when lowering the gearbox.*
- ◆ *Do not bend or buckle the selector lever control cable.*

Transport the gearbox and secure it to the assembly stand
⇒ [page 111](#).



10.3 Installing the gearbox

Installation is performed in the reverse order, pay attention to the following points:





Note

- ◆ Install the gearbox DSG - 02E for vehicles with four-wheel drive together with the angle gearbox.
 - ◆ When performing installation work replace the self-locking nuts and screws.
 - ◆ Use new screws which must be tightened to a torquing angle as well as gasket rings and seals.
 - ◆ Secure all hose connections with hose clamps which comply with the series design ⇒ *Electronic Catalogue of Original Parts*.
 - ◆ All cable straps which are detached or cut open when removing, should be fitted on again in the same place when installing.
 - ◆ Check the needle bearing -arrow- in the crankshaft. If it is damaged or tarnished blue (caused by overheating), it must be replaced ⇒ *Engine; Rep. Gr. 13*.
 - ◆ Lightly grease the needle bearing -arrow- and the drive shaft pin (not the serration) with high-temperature grease -G 052 133 A2-.
 - ◆ Lightly grease the stud of the drive shaft with the high-temperature grease -G 052 133 A2-.
 - ◆ Check whether the dowel sleeves -A- for centering the gearbox are present in the cylinder block, insert if necessary.
 - ◆ If the gearbox is inserted, ensure the intermediate plate between the engine and gearbox is correctly installed.
- Carefully raise gearbox with the engine/gearbox jack -V.A.G 1383 A- and put in its installation position with the gearbox mount -3282-.
 - The gearbox is pulled off from the engine by approx. 30 mm.

Vehicles with four-wheel drive:

- Screw on the screws -arrows- of the gearbox mount -A- before positioning the gearbox on the engine by hand.

Continued for all vehicles:

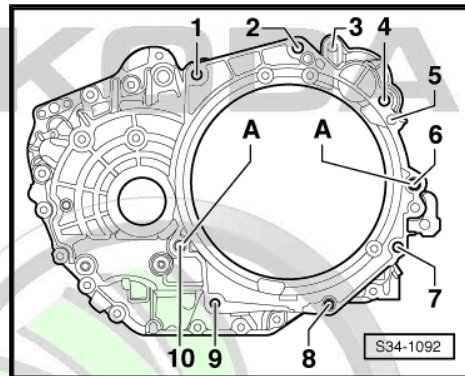
- Do not get the cables trapped when inserting the gearbox.
- Screw on gearbox to engine ⇒ [page 109](#).
- Attach the selector lever control cable to the gearbox ⇒ [page 74](#).



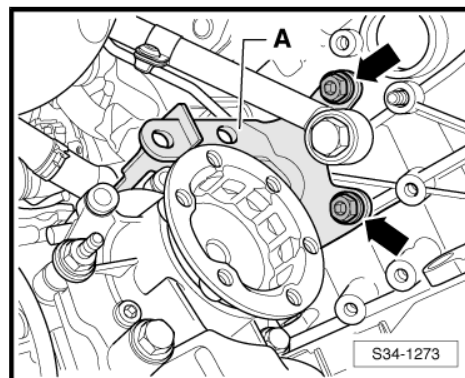
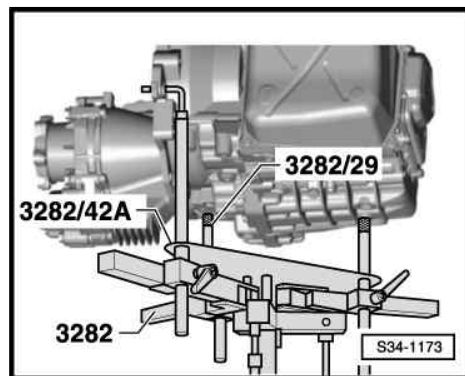
Note

Do not bend or buckle the selector lever control cable.

Install the unit mounting as follows:



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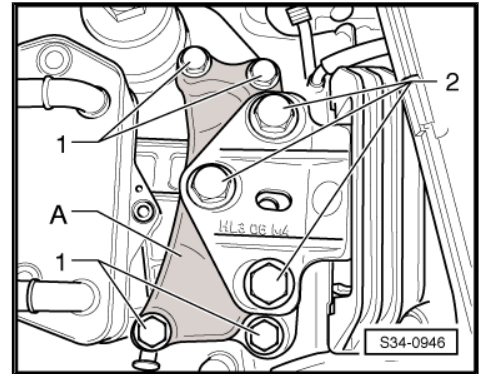


- Insert the gearbox console -A- between the gearbox and the supporting arm of the gearbox mount.
- Tighten the gearbox console -A- with new screws -1- at the gearbox.
- Also lift the gearbox with the spindles of the supporting device to the supporting arm of the gearbox mount at the same time.
- Insert new screws -2- and tighten by hand.



Caution

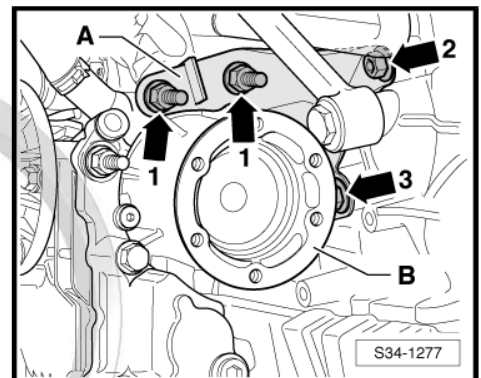
Before screwing in the screws -2- the gearbox console and the supporting arm of the gearbox mount must be absolutely parallel to one another, otherwise the thread is damaged.



- Remove the gearbox mount -3282- from the gearbox.

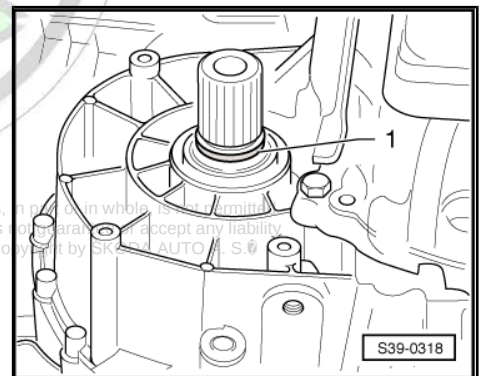
Vehicles with four-wheel drive:

- Screw the gearbox mount -A- to the angle gearbox by hand -arrow 1-.
- Then tighten the screws -arrows 1 ... 3- to the recommended tightening torque, while doing so observe the tightening order ➔ [page 109](#).



Vehicles with intermediate shaft (front-wheel drive)

- Replace O-ring -1- for rigid shaft, if no new gearbox is installed.
- Mount the intermediate shaft of the right drive shaft correctly on the serration of the rigid shaft at the gearbox ➔ Chassis; Rep. Gr. 40.

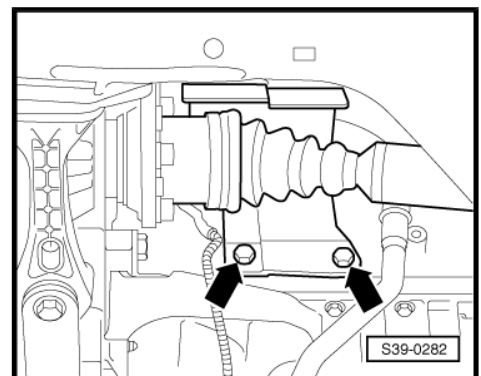


Continued for all vehicles:

- Screw the drive shaft on left and right on the flange shafts of the gearbox or the right drive shaft on the flange of the intermediate shaft ➔ Chassis; Rep. Gr. 40.

- Install protective cap for right drive shaft on the engine, to do so tighten the screws -arrows- to 35 Nm.

Vehicles with four-wheel drive:



- Install the protective cap for the right drive shaft on the angle gearbox -arrows-.

Vehicles with diesel particle filter:

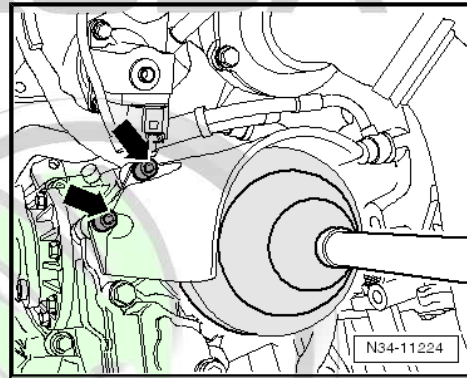
- Install particle filter with bracket for particle filter ⇒ Engine; Rep. Gr. 26 .

Continued for all vehicles:

- Install the assembly carrier ⇒ Chassis; Rep. Gr. 40 .
- If present, install the front left vehicle level sensor -G78- ⇒ Chassis; Rep. Gr. 40 and check the headlight beam setting ⇒ Electrical System; Rep. Gr. 94 .

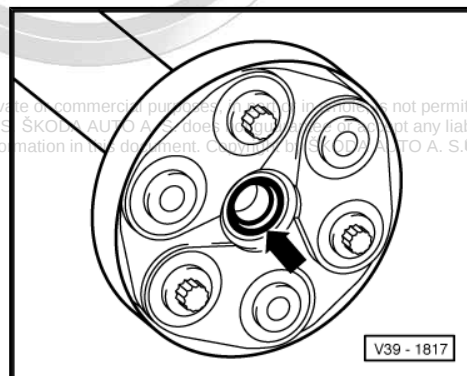
Vehicles with four-wheel drive:

- Press the engine/gearbox unit towards the bulkhead; at the same time the stud of the output flange of the angle gearbox must be carefully inserted into the flange of the propshaft.



Note

- ♦ *The gasket rings -arrow- in the flanges of the propshaft must not be damaged when removing and installing. In case of damaged gasket rings the propshaft must be replaced.*
- ♦ *Slide the propshaft horizontally onto the stud of the angle gearbox.*

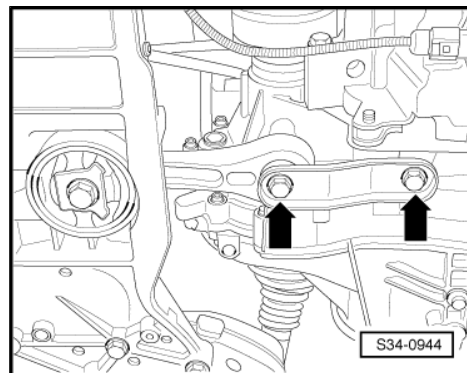


Continued for all vehicles:

- Screw the pendulum support with new screws -arrows- onto the gearbox ⇒ Engine; Rep. Gr. 10 .

Vehicles with four-wheel drive:

- Screw propshaft onto the flange of the angle gearbox ⇒ [page 145](#) .

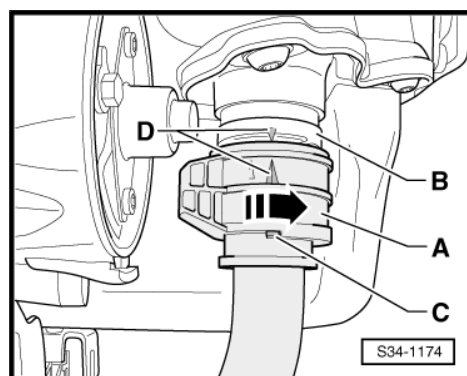


Note

If the previous gearbox must be installed again, the markings made on the propshaft and on the output flange of the angle gearbox during the removal must be opposite each other.

Continued for all vehicles:

- Installing starter and cable ⇒ Electrical System; Rep. Gr. 27 .
- Mount the plug -A- of the mechatronics as follows:
 - The arrows -D- on the mechatronics -B- and on the plug -A- as well as the peg -C- must be on the same line and point upwards.
 - Then mount the plug -A- carefully up to the stop and lock the cap by turning it to the right in -direction of arrow-.
- Assemble exhaust system free of stress and install bracket for the exhaust system at the assembly carrier ⇒ Engine; Rep. Gr. 26 .

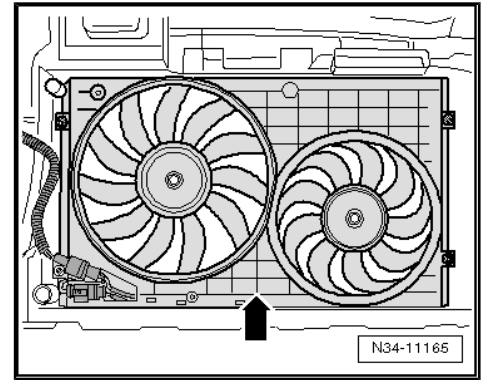


- Install fan shroud -arrow- with fans ⇒ Engine; Rep. Gr. 19 .
- Install left and right charge air hose ⇒ Engine; Rep. Gr. 21 .
- Check the setting of the assembly bearings ⇒ Engine; Rep. Gr. 10 .
- Tighten the new screws of the gearbox console at the supporting arm of the gearbox mount to the recommended tightening torque, while doing so observe the tightening sequence ⇒ [page 109](#) .

i Note

If the battery earth strap is disconnected and connected, carry out certain additional operations ⇒ Electrical System; Rep. Gr. 27 .

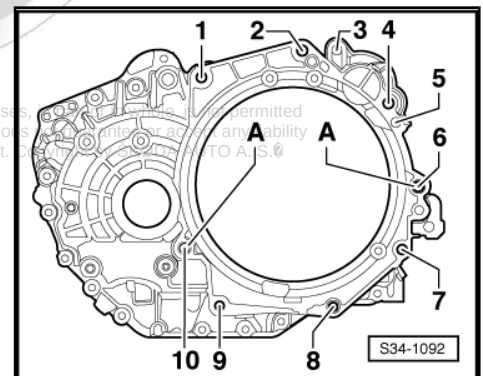
- Install the battery tray and battery ⇒ Electrical System; Rep. Gr. 27 .
- Inspect setting of selector lever control cable and adjust if necessary ⇒ [page 65](#) .
- Install air filter ⇒ Engine; Rep. Gr. 23 .
- Check coolant level in the cooling system ⇒ Engine; Rep. Gr. 19 .
- Inspect gear oil level and top up if necessary ⇒ [page 113](#) .
- Install the front left wheelhouse liner ⇒ Body Work; Rep. Gr. 66 .
- Install sound dampening ⇒ Body Work; Rep. Gr. 50 and install front left and right wheelhouse liner ⇒ Body Work; Rep. Gr. 66 .
- Install front wheel ⇒ Chassis; Rep. Gr. 44 .



10.3.1 Tightening torques

Attachment of engine/gearbox on vehicles with 1.9 ltr./77 kW TDI, 2.0 ltr./103 kW TDI, 2.0 ltr./125 kW TDI and 2.0 ltr./147 kW TFSI engines

Pos.	Screw	Nm
1, 2	M12 x 55	80
3 ¹⁾	M10 x 45	40
4 ²⁾	M12 x 55	80
5 ¹⁾	M10 x 40	40
6	M12 x 65	80
7,8,9	M10 x 50	40
10 ³⁾	M12 x 65	80
10 ³⁾⁴⁾	M12 x 70	80
A	Dowel sleeves	



- 1) Starter to gearbox
- 2) The screw is only accessible after removing the starter
- 3) Installed from the engine side
- 4) Vehicles with four-wheel drive

Install gearbox mount -A-

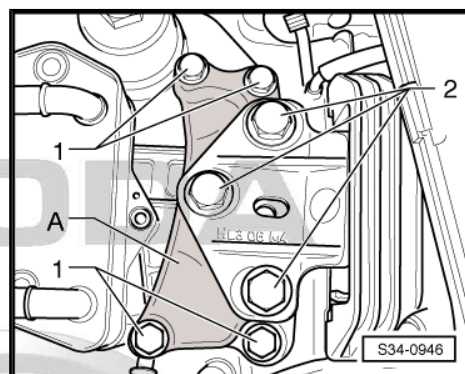
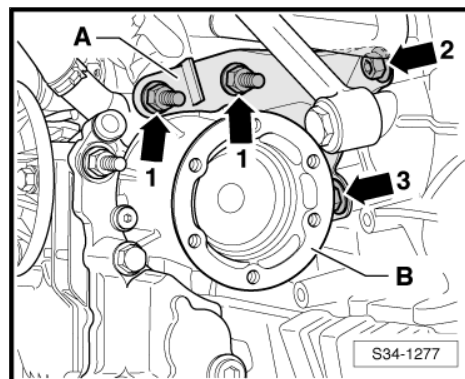
When installing the gearbox holder, observe the following mounting sequence:

- Screw in all screws by hand.
- Tighten screws -arrows 1- to 40 Nm.
- Tighten screws -arrow 2- and -arrow 3- (behind right flange shaft -B-) to 40 Nm.

Insert gearbox console -A- at gearbox and supporting arm of gearbox mount

- ◆ Screw -1- tightening torque 40 Nm + torque a further 90° (1/4 turn)
- ◆ Screw -2- tightening torque 60 Nm + torque a further 90° (1/4 turn)

Always replace screws -1- and -2- ⇒ Electronic Catalogue of Original Parts .



Component	Tightening torque
Heat shield of drive shaft to angle gearbox	20 Nm
Earth strap to fixing screw for gearbox console	20 Nm

11 Transporting the gearbox and securing to the assembly stand

Special tools and workshop equipment required

- ◆ Gearbox mount -3282-
- ◆ Lifting device -MP9-201 (2024 A)-
- ◆ Workshop crane -VAS 6100- , e.g.
- ◆ Gearbox attachment device -MP3-478 (3336)-
- ◆ Assembly stand -MP 9-101-
- ◆ Gearbox mount -T30109 (VW 353)-
- ◆ Gearbox mount -T30108 -
- ◆ Ring bolt -3368- (2 pieces)

11.1 Transporting the gearbox

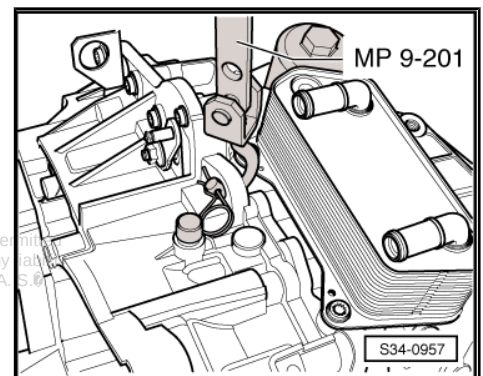
Special tools and workshop equipment required

- ◆ Gearbox mount -3282-
- ◆ Lifting device -MP9-201 (2024 A)-
- ◆ Workshop crane -VAS 6100-
- ◆ Gearbox attachment device -MP3-478 (3336)-

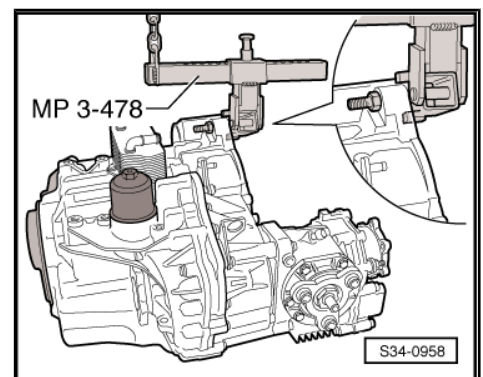
For transporting the gearbox as well as for alignment of the gearbox mount -3282- one part of the lifting device -MP9-201 (2024 A)- can be used.

- Hang the workshop crane e.g. -VAS 6100- in combination with a shackle in the lifting device -MP9-201 (2024 A)- .

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The gearbox can also be transported with the gearbox suspension device -MP3-478 (3336)- .



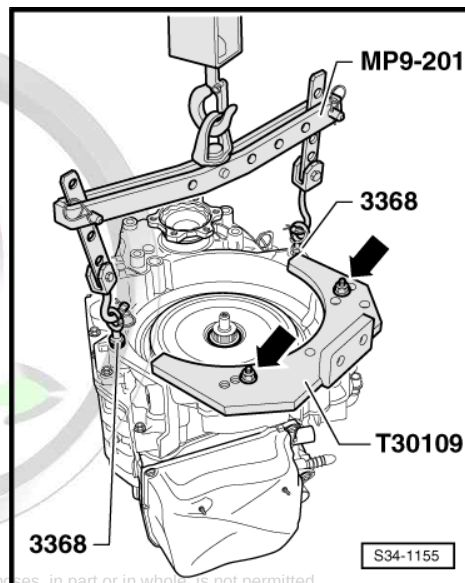
11.2 Attaching gearbox to assembly stand

Special tools and workshop equipment required

- ◆ Assembly stand -MP 9-101-
- ◆ Gearbox mount -T30109 (VW 353)-
- ◆ Gearbox mount -T30108 -
- ◆ Ring bolt -3368- (2 pieces)
- ◆ Lifting device -MP9-201 (2024 A)-

Lift up the gearbox on the assembly stand -MP 9-101-

- Secure gearbox mount -T30109 (VW 353)- at the gearbox with screws -arrows-.
- Secure the ring bolts -3368- to the flange of the gearbox housing.
- Then hook the lifting device -MP9-201 (2024 A)- into the ring bolts -3368- .
- Subsequently raise the gearbox with a workshop crane e. g. - VAS 6100- at the assembly stand -MP9-101-.
- Then attach the gearbox to the assembly stand -MP 9-101-
→ [page 112](#) .



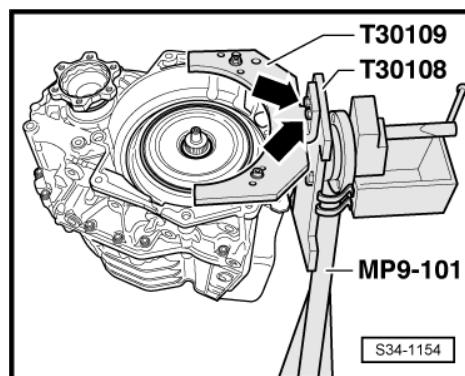
Attach gearbox to assembly stand -MP 9-101-

- The gearbox mount -T30109 (VW 353)- is screwed on the gearbox mount -T30108- with screws -arrows-.



Note

If the filled gearbox on the assembly stand with the clutch is turned upwards, then the ventilation hole for the gearbox housing must be closed off.



WARNING

The center of gravity of the gearbox is outside the turning center at the assembly stand . For turning the gearbox, a second mechanic must hold the gearbox housing in order to avoid a back-swing.

12 Change the gearbox oil and filter of the automatic gearbox DSG and at the same time check the oil level

Special tools and workshop equipment required

- ◆ Vehicle Diagnosis, Measurement and Information System - VAS 505x-
- ◆ Adapter for oil filling -VAS 6262- or -VAS 6262A-
- ◆ Pliers for spring strap clips , e.g. -VAS 6340-
- ◆ Catch pan
- ◆ Protective goggles
- ◆ Protective gloves



Caution

- ◆ *When changing the gear oil, the gearbox oil filter must not always be replaced. Therefore comply with the instructions, when the gearbox oil filter must be replaced and when not ⇒ [page 12](#)*
- ◆ *The engine must not be started if the repair was carried out and no oil was poured in, or only a small amount of oil is available in the gearbox, or after a major gearbox oil loss.*
- ◆ *Only gear oil for the automatic gearbox DSG must be used, which is indicated as spare part for automatic gearbox DSG - 02E. Other oils can lead to functional problems or to failure of the gearbox, part number ⇒ *Electronic catalogue of original parts* .*



Note

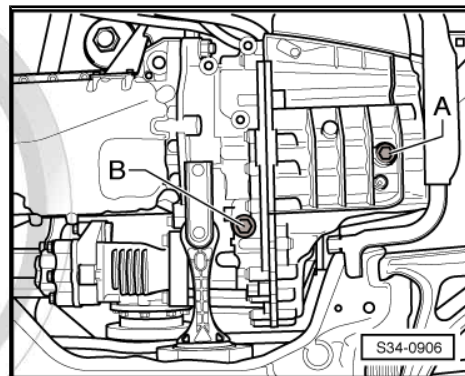
- ◆ *Observe instructions for automatic gearbox DSG - 02E ⇒ [page 12](#) .*
- ◆ *General repair information ⇒ [page 12](#) .*
- ◆ *Regulations concerning cleanliness when working on the gearbox ⇒ [page 12](#) .*
- ◆ *The gearbox oil temperature is determined with the ⇒ Vehicle diagnosis, testing and information system VAS 5051.*
- ◆ *The gear oil level changes with the gearbox oil temperature.*
- ◆ *Checking gear oil level when oil temperature is too low may result in over-filling.*
- ◆ *Checking gear oil level when oil temperature is too high may result in under-filling.*
- ◆ *An over-filling as well as an under-filling impairs the proper working of the gearbox.*
- ◆ *Always replace gasket ring of drain plug as well as check screw ⇒ *Electronic Catalogue of Original Parts* .*

Requirements

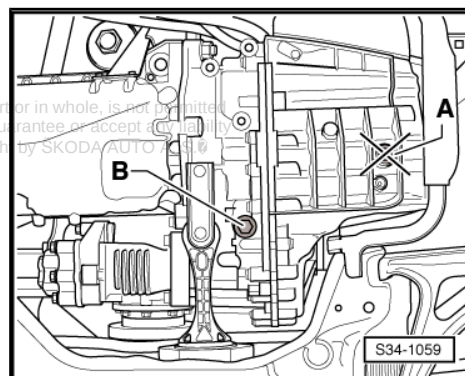
- Engine switched off



- Vehicle in horizontal position, all supports of the lift platform must be at the same level, so that it is secured in the horizontal position.
- Selector lever in "P".
- ⇒ Vehicle diagnosis, testing and information system VAS 5051 is connected.
- The gearbox oil temperature must not exceed 35°C at the start of the test.

**Note**

- ◆ Gearbox with drain plug -A- and check screw -B- installed up to 12.04.
- ◆ The gearboxes installed as of 01.05 have only one check screw -B-.
- ◆ Oil can only be drained and checked via the check screw -B-, which is located close to the pendulum support.



12.1 Change the gearbox oil, replace the oil filter

**Note**

The following instructions must be observed until termination of the gear oil change.

removing and installing oil filter

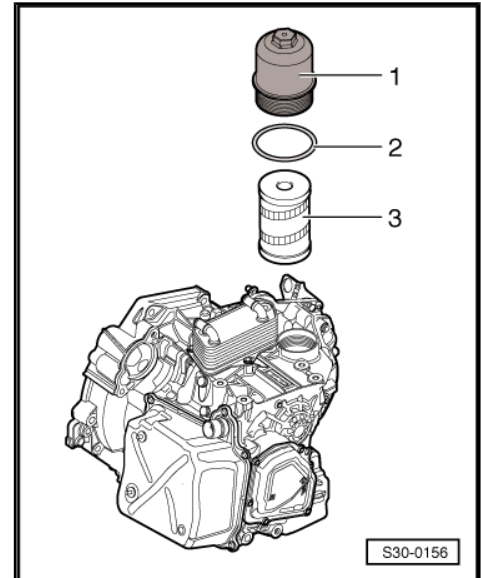
- Remove engine cover ⇒ engine; Rep. Gr. 10 .
- Remove air filter ⇒ Engine; Rep. Gr. 24 or ⇒ Rep. Gr. 23 .
- Raise vehicle.
- Remove the sound dampening system ⇒ Body Work; Rep. Gr. 50 .
- Position the catch pan under the gearbox.
- Lower the vehicle.

- Unscrew oil filter housing -1- from gearbox.
 - Before removing, the oil filter must be slightly inclined.
- So that the oil can flow out of the oil filter back into the gearbox.

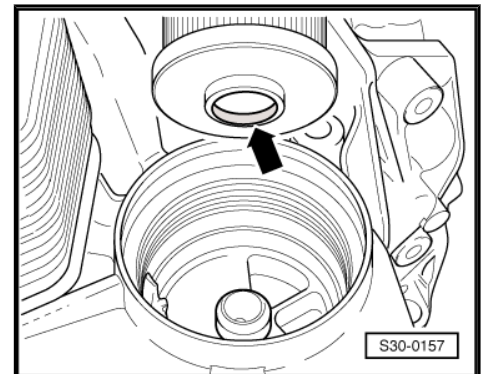
i Note

Always replace O-ring -2- ⇒ Electronic Catalogue of Original Parts .

- Remove filter -3-.
- Moisten O-ring -2- with gear oil.



- Moisten the O-ring in the intake collar -arrow- of the new oil filter with gear oil.
- Insert new oil filter with the intake collar -arrow- downwards and tighten the filter housing to tightening torque ⇒ [page 38](#) .
- Install filter housing and air mass meter -G70- , mount electrical plug connections, fasten ventilation hose with retaining clip ⇒ Engine; Rep. Gr. 23 or ⇒ Engine; Rep. Gr. 24 .



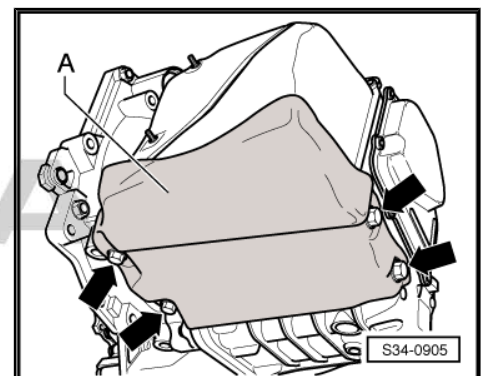
Change gear oil, check oil level

- Raise vehicle.
- Remove protection plate -A- at the bottom of the gearbox -arrows-; if applicable.
- The catch pan is under the gearbox.

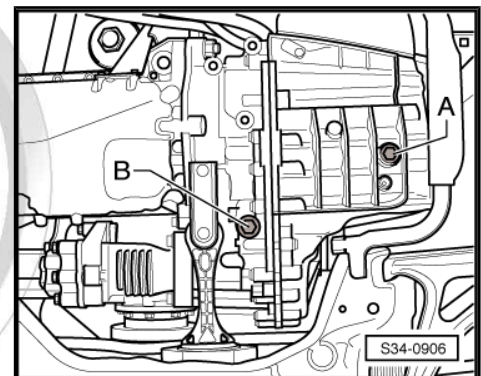


WARNING

- ◆ *Wear safety goggles.*
- ◆ *Wear protective gloves.*



Gearbox with drain plug -A- and check screw -B- installed up to 12.04.





The gearboxes installed as of 01.05 have only one check screw -B-.

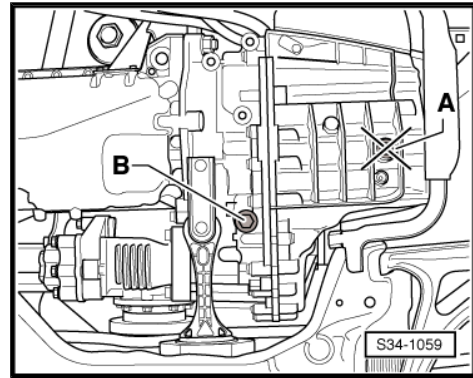
Oil can only be drained and checked via check screw -B-.

- Unscrew check screw -B- close to the pendulum support.



Note

A plastic overflow tube with an 8 mm hexagon socket and a tightening torque of 3 Nm is located behind this screw. The length of the overflow tube determines the oil level in the gearbox, when replacing assign via part number ⇒ Electronic Catalogue of Original Parts .



- Remove overflow tube.

Approx. 5.0 ltr of oil flows out. Furthermore, the catch pan remains under the gearbox.

- Screw in overflow tube and tighten to tightening torque
⇒ [page 38](#) .
- Shake the oil reservoir before opening.



Caution

- ♦ ***The filling hose and the adapter -VAS 6262 - or - VAS 6262A- must be clean and the gearbox oil must not be mixed with other oils!***

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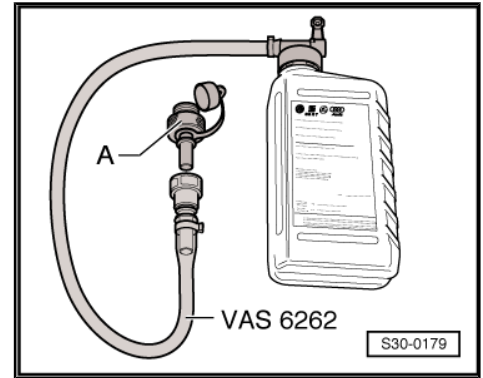
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- Screw in adapter for oil filling -A- from -VAS 6262- or -VAS 6262A- by hand into the hole of the check screw.

When changing the bottle the shut-off valve can be closed or the adapter for oil filling can be held higher than the gearbox.

- Pour in 5.5 litres of gearbox oil for DSG automatic gearbox using adapter for oil filling .
- Read off gearbox oil temperature at ⇒ Vehicle diagnosis, testing and information system VAS 5051.
- Start engine.
- Press brake pedal and push the selector lever for approx. 3 seconds into all positions. Then push again the selector lever into position "P".

Do not switch off the engine!



WARNING

- ◆ *When working close to the radiator, always keep a distance from the fan - risk of injury!*
- ◆ *The fan can switch on automatically.*

For gearbox oil temperature 35°C up to 45°C:

- Separate the quick coupling at the adapter for oil filling when the engine is running.
- Drain off excess oil.



Note

- ◆ *A slight amount of oil flows out via the overflow tube every 30 seconds, independent of the oil level; (the cause are pulses of the oil, which cool down the coupling). This oil quantity is no criterion for determining the correct oil level and must therefore not be taken into account when assessing.*
- ◆ *The oil drained from the gearbox must no longer be used for topping up the gearbox. Dispose of drained oil appropriately ⇒ [page 12](#) .*

- As soon as the oil has been drained off (begins to drip), unscrew adapter for oil filling and screw in check screw -B- with new gasket ring.

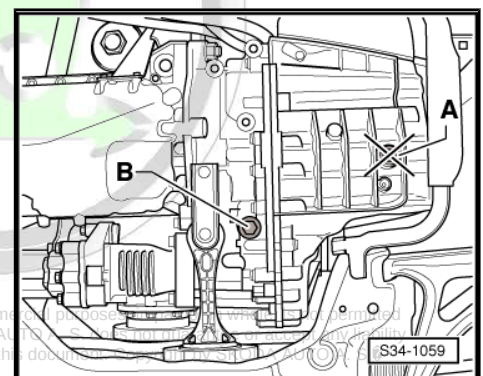
Tightening torque: 45 Nm

- Switch off engine.

Thus, the gear oil and oil filter change is completed.

The oil level in the gearbox is correct.

- Install the noise insulation ⇒ Body Work; Rep. Gr. 50 .



13 Removing and installing angle gearbox

Special tools and workshop equipment required

- ◆ Socket insert -T10107 A-
- ◆ Extractor -T10037-
- ◆ Tensioning strap -T10038 A-
- ◆ Catch pan

13.1 Remove angle gearbox

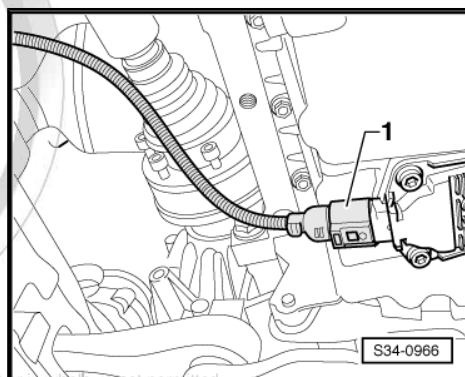
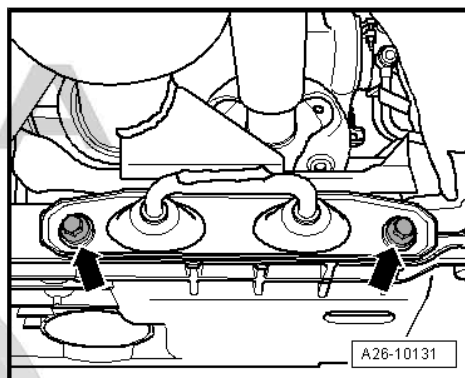
- Loosen the front right wheel bolts.
- Raise vehicle ⇒ Maintenance ; Octavia II .
- Remove front wheels.
- Remove noise insulation ⇒ Body Work; Rep. Gr. 50 and front right wheelhouse liner ⇒ Body Work; Rep. Gr. 66 .
- Remove all supports for exhaust gas system from gearbox and from exhaust pipe ⇒ Engine; Rep. Gr. 26 .
- Separate exhaust system at the double clamp and remove bracket for the exhaust system from the assembly carrier ⇒ Engine; Rep. Gr. 26 .
- Tie up pre-exhaust pipe.



Note

The decoupling elements in the exhaust pipe should not be bent by more than 10° - risk of damage.

- Disconnect plug -1- from oil level and oil temperature sender -G266- .

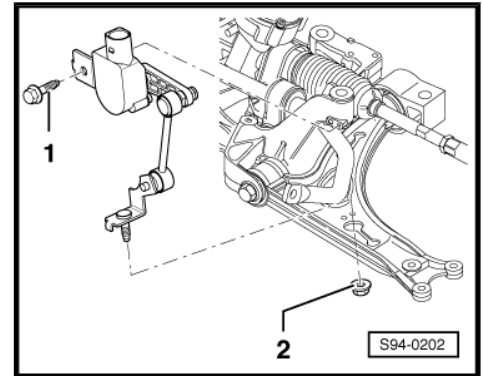


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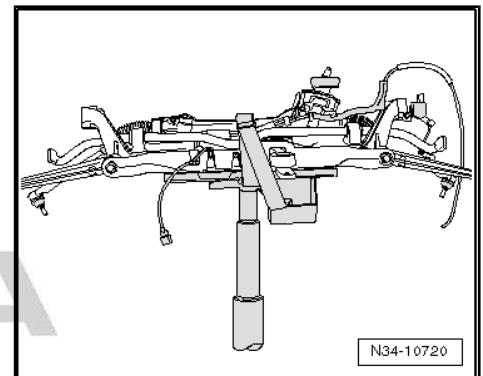
- If present, disconnect the plug connection at the front left vehicle level sensor -G78-.
- Unscrew nut -2-.
- Release screw -1- and remove the sender.
- Fix the assembly carrier before removing ⇒ Chassis; Rep. Gr. 40 .

i Note

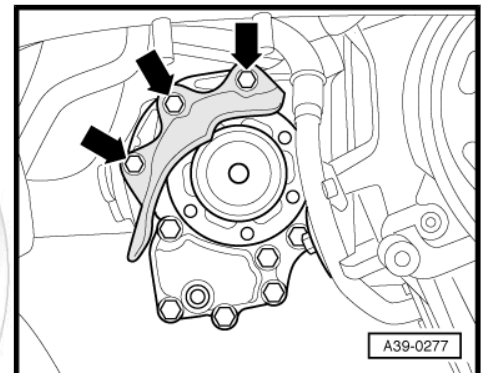
If the assembly carrier is not fixed, an axial measurement must later be carried out.



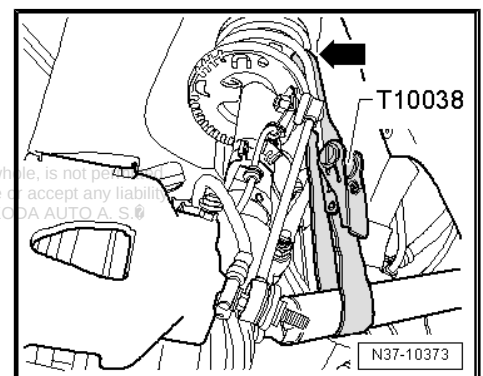
- Remove assembly carrier with pendulum support, anti-roll bar, consoles, steering gear and track control arms ⇒ Chassis; Rep. Gr. 40 .



- Remove protective cap for right drive shaft from the angle gearbox -arrows-.
- Remove the right drive shaft from the flange shaft of the gearbox ⇒ Chassis; Rep. Gr. 44 .

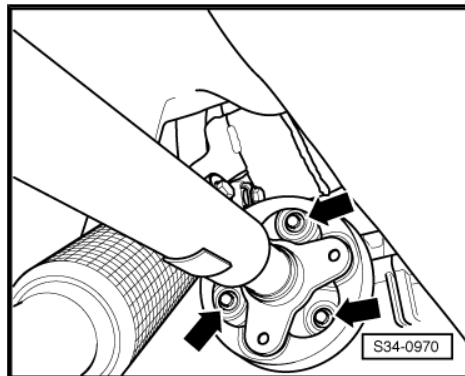


- Tie up the right drive shaft e.g. secure with the tensioning strap -T10038- to the right suspension strut (while doing so do not damage the surface protection).



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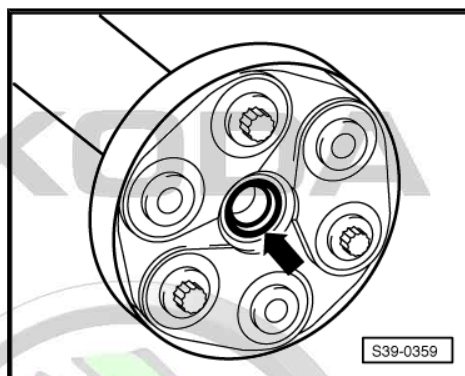
- Mark the position of the propshaft with flexible disk to the output flange of the angle gearbox.
- Unscrew the propshaft with flexible disk from the output flange of the angle gearbox -arrows-.



i Note

After removing the pendulum support from the gearbox, the engine/gearbox unit swivels slightly towards the front (direction front). When removing and installing make sure that the gasket ring -arrow- in the flange of the propshaft is not damaged.

- Push engine/gearbox unit forwards and pull off the propshaft from the output flange of the angle gearbox.
- Raise propshaft and tie up.



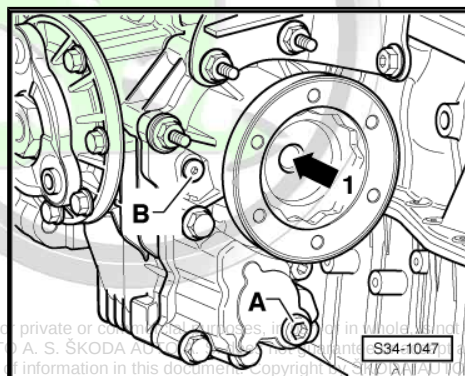
For vehicles with particle filter:

- Remove particle filter with bracket for particle filter ⇒ Engine; Rep. Gr. 26 .
- Remove the screw for the right flange shaft -arrow 1- using the socket insert -T10107A- .

i Note

On vehicles without particle filter, the right flange shaft remains in the angle gearbox.

- Position the catch pan under the angle gearbox.

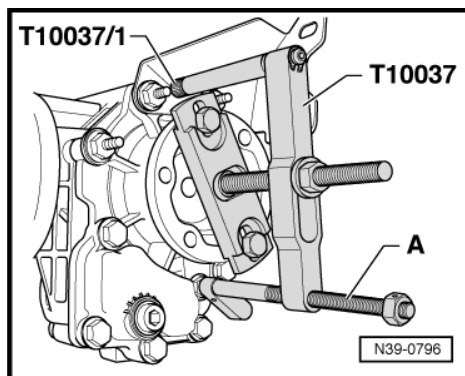


- Screw extractor -T10037- onto right flange shaft.

i Note

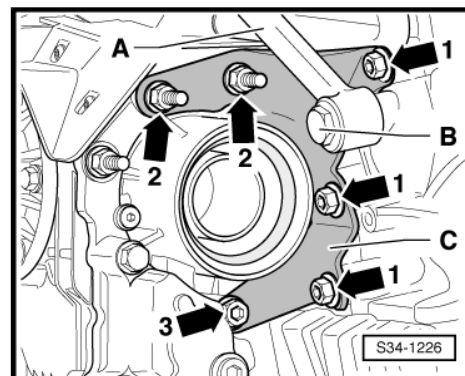
Use the extractor -T10037- to remove the right flange shaft so that the needle bearing on the flange shaft is not damaged.

- Insert the thrust piece -MP3-410- between the gearbox mount and the knurled nut -T10037/1- .
- Align the extractor -T10037- with the support -A- parallel to the flange.
- Take out the flange shaft.



Continued for all vehicles:

- Remove the support -A- for exhaust gas turbocharger from the exhaust gas turbocharger, release the hollow screw -B- and remove the support ⇒ Engine; Rep. Gr. 21 .
- Unscrew screws for gearbox mount (there are two types of gearbox mounts, see fig. S34-1277 for second type) at engine and angle gearbox -1-, -2- and -3-.



- Release screws -1-, -2- and -3- for gearbox mount -A- at engine and angle gearbox (the flange shaft was removed).

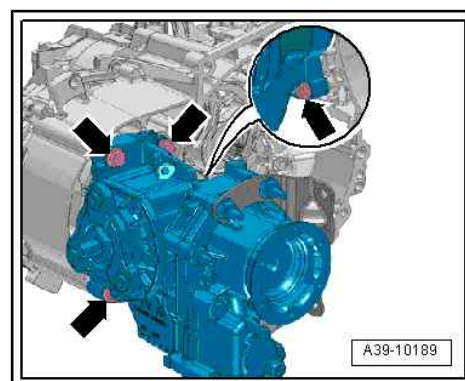
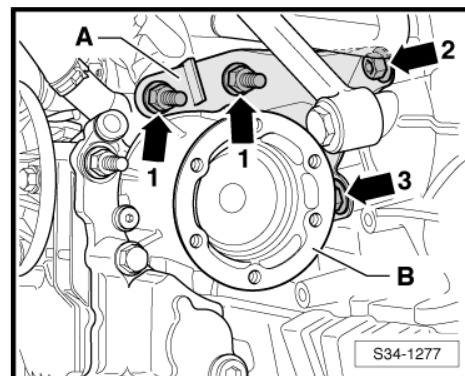


Note

- ◆ On this type of holder, the screw -3- cannot be fully released as it touches the right flange shaft -B-.
- ◆ The gearbox mount can only be removed if the gearbox is removed from the engine.

Continued for all vehicles:

- Release screws -arrows- for angle gearbox to gearbox.
- Carefully press off angle gearbox from gearbox, while doing so secure it against falling.
- Remove angle gearbox between engine oil pan and assembly carrier downwards.



13.2 Install angle gearbox

- The installation occurs in reverse order, while paying attention to the following.

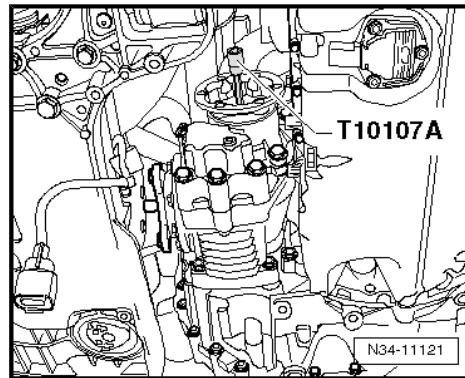


Note

- ◆ When attaching the angle gearbox to the gearbox slowly turn the flange shaft (carefully push angle gearbox to gearbox up to stop).
- ◆ If the angle gearbox does not touch the gearbox, the connecting screws cannot be tightened. The angle gearbox would tilt and the fixing eyes can break off.
- ◆ Tighten gearbox/angle gearbox connecting screws crosswise (always replace screws ⇒ Electronic Catalogue of Original Parts).
- Attach angle gearbox to gearbox and tighten connecting screws crosswise.



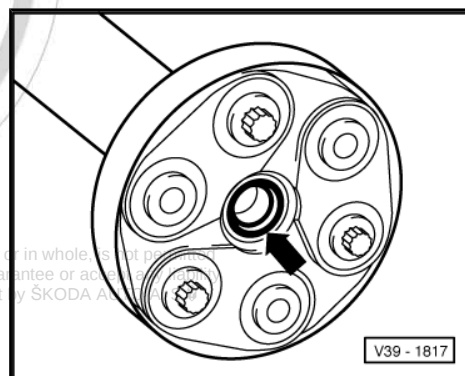
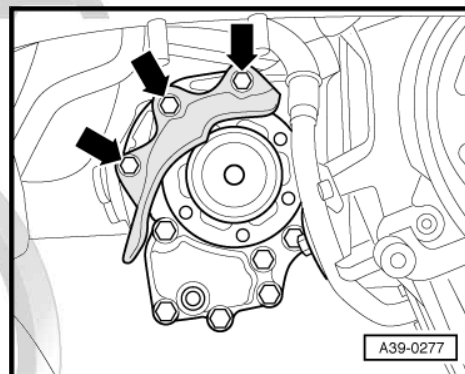
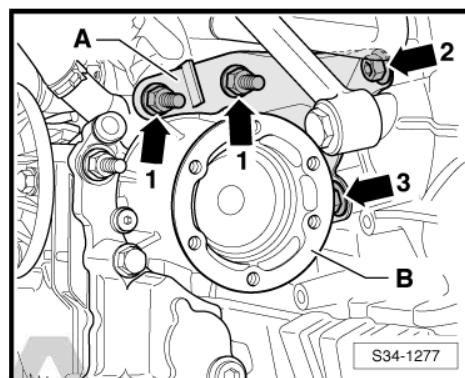
- Tighten the screw of the right flange shaft with socket insert - T10107 A- . To this end insert two screws in the flange and counterhold the flange shaft using a tyre iron.



Install gearbox mount -A-

When installing the gearbox holder, observe the following mounting sequence:

- Screw in all screws by hand.
- Tighten screws -arrows 1- to 40 Nm.
- Tighten screws -arrow 2- and -arrow 3- (behind right flange shaft -B-) to 40 Nm.
- Screw the right drive shaft onto the flange shaft of the gearbox
⇒ Chassis; Rep. Gr. 40 .
- Install protective cap for drive shaft -arrows-.
- Press the engine/gearbox unit towards the bulkhead; at the same time the stud of the angle gearbox must be carefully inserted into the flange of the propshaft.



Note

- ◆ *The gasket rings -arrow- in the flanges of the propshaft must not be damaged when removing and installing. In case of damaged gasket rings the propshaft must be replaced.*
- ◆ *Slide the propshaft horizontally onto the stud of the angle gearbox.*
- Install the assembly carrier ⇒ Chassis; Rep. Gr. 40 .

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-
- A detailed line drawing of a vehicle's rear suspension system. Three components are highlighted with black arrows and labels: 'A' points to the rear shock absorber, 'B' points to the rear coil spring, and 'C' points to the rear stabilizer bar. A small rectangular box in the bottom right corner contains the text 'S34-0882'.



Note

If the previous gearbox must be installed again, the markings made on the propshaft and on the output flange of the angle gearbox during the removal must be opposite each other.

- Assemble exhaust system free of stress and install bracket for the exhaust system at the assembly carrier ⇒ Engine; Rep. Gr. 26 .
- After installing, check gear oil level in the angle gearbox ⇒ [page 124](#) .
- Install the front right wheelhouse liner ⇒ Body Work; Rep. Gr. 66 .
- Install the noise insulation ⇒ Body Work; Rep. Gr. 50 .
- Attach the right front wheel ⇒ Chassis; Rep. Gr. 44 .

13.2.1 Tightening torques

Component	Tightening torque
Protective cap drive shaft on angle gearbox	20 Nm
Gearbox mount between engine and angle gearbox	40 Nm
Right flange shaft to gearbox	⇒ page 129
Gearbox/angle gearbox ¹⁾ connecting screws	⇒ page 129

1) Always replace screws ⇒ Electronic Catalogue of Original Parts

14 Checking the oil level in the angle gearbox or topping up with oil

14.1 Inspecting oil level in the angle gearbox

Special tools and workshop equipment required

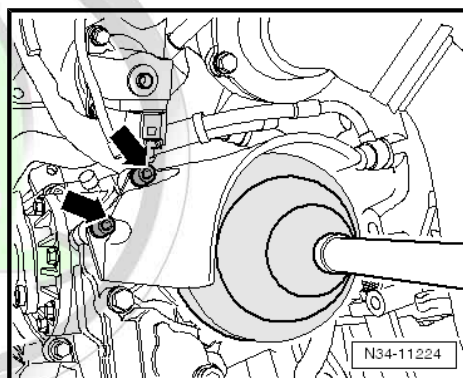
- ◆ Catch pan

The angle gearbox is screwed on laterally to the manual gearbox and equipped with its own closed oil supply.

Oil specification ⇒ Electronic Catalogue of Original Parts .

Precondition

- The angle gearbox must be in its installed position.
- Remove the sound dampening system ⇒ Body Work; Rep. Gr. 50 .
- Remove heat shield for right drive shaft from angle gearbox (2 nuts) -arrows-.
- Position the catch pan under the angle gearbox.



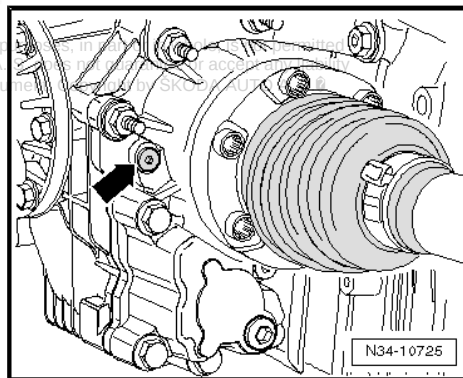
- Unscrew the oil filler plug -arrow- in the angle gearbox.

The oil filler plug -arrow- must be replaced ⇒ Electronic Catalogue of Original Parts .

The oil is at the correct level if the angle gearbox is filled up to the lower edge of the oil filler hole.

If oil gets onto the angle gearbox, it must be thoroughly removed.

- Top up oil if necessary ⇒ [page 124](#) .
- Screw in new screw -B- and tighten to tightening torque.
- Install heat shield for drive shaft.
- Install the noise insulation ⇒ Body Work; Rep. Gr. 50 .



Tightening torques

Component	Tightening torque
Oil filler plug ¹⁾	15 Nm
Protective cap drive shaft on angle gearbox	20 Nm

¹⁾ Always replace screw ⇒ Electronic Catalogue of Original Parts .

14.2 Top up oil in angle gearbox

Special tools and workshop equipment required

- ◆ Catch pan
- ◆ Filling device for Haldex coupling 2 e.g. -VAS 6291- or -VAS 6291A-

The angle gearbox is screwed on laterally to the manual gearbox and equipped with its own closed oil supply.

Oil specification ⇒ Electronic Catalogue of Original Parts .

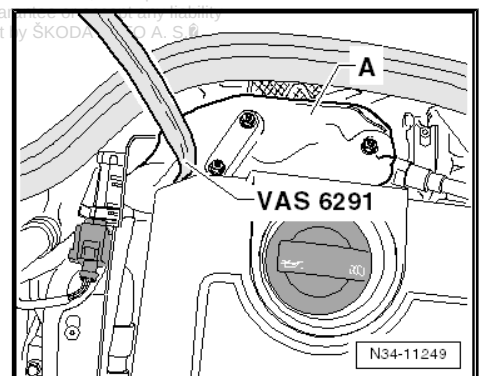
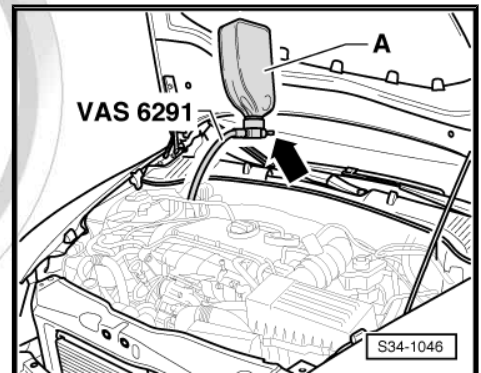
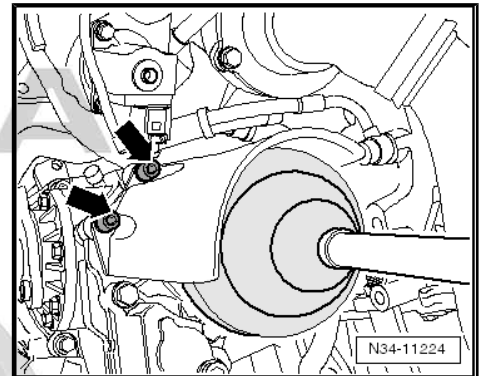
Precondition

- The angle gearbox must be in its installed position.
- Remove the sound dampening system ⇒ Body Work; Rep. Gr. 50 .
- Position the catch pan under the angle gearbox.
- Remove heat shield for right drive shaft from angle gearbox (2 nuts) -arrows-.
- Position the catch pan under the angle gearbox.

For topping up, use filling device for Haldex coupling 2 , e.g. -VAS 6291- or -VAS 6291A- .

- Lay hose of filling device for Haldex coupling 2 - VAS 6291- through the engine compartment.

- On vehicles with particle filter -A-, guide the hose of the filling device for Haldex coupling 2 -VAS 6291- past the particle filter on the right.

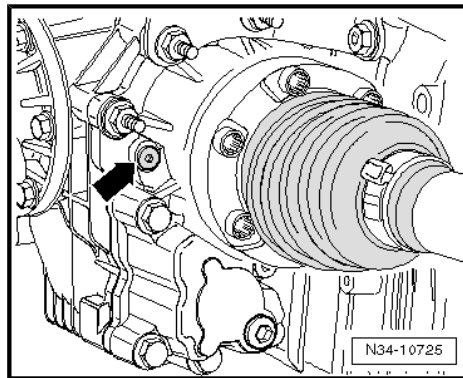




Note

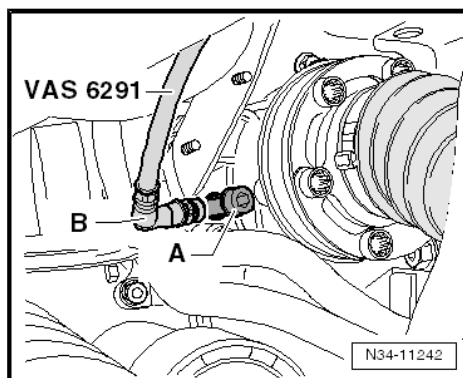
Cover the area below the oil filler plug -arrow- with a cloth.

- Unscrew the oil filler plug -arrow- in the angle gearbox.

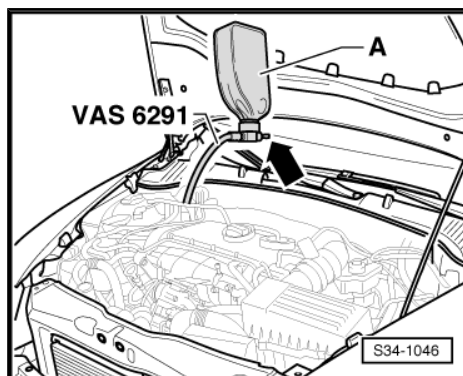


- Separate adapter -VAS 6291/3- -A- and angular piece -B-.
- Screw the adapter -VAS 6291/3- -A- into the angle gearbox up to the stop.
- Lock angular piece -B- with adapter -A-.

The hose must not sag.



- Ensure that the valve -arrow- is closed.
- Screw oil reservoir -A- onto filling device -VAS 6291-.
- Now open valve -arrow- and hold oil reservoir as shown.
- Angle gearbox is now filled with oil.
- Raise the vehicle after several minutes.



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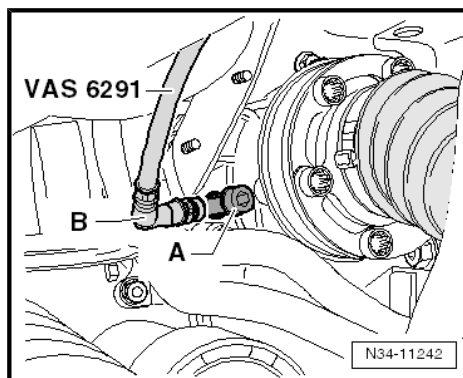


Note

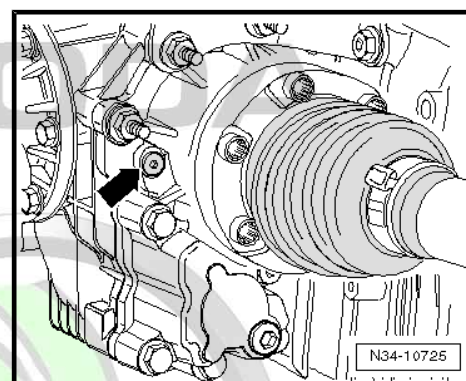
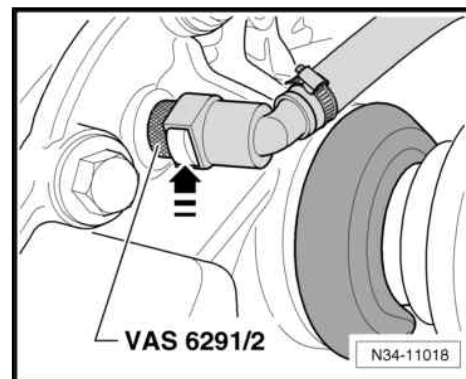
- ◆ *If the angle gearbox is correctly filled, oil flows out at the adapter -A-.*
- ◆ *If no oil flows out, lower the vehicle and continue the filling procedure.*

- Raise vehicle.
- If oil flows out, place down oil reservoir (e.g on a tool car).

One part of the excessive oil flows now back into the oil reservoir.



- If no more oil flows back, remove the filling device for Haldex coupling 2 . To do so, press the catch in the -direction of arrow-. (Shown here on the adapter -VAS 6291/2-).
- Make sure that there is still oil in the hose of the filling device for Haldex coupling 2 -VAS 6291- .
- Unscrew adapter .
- Screw in original oil filler plug.
- Start engine, engage a gear and allow gearbox to rotate for about 2 minutes.
- Switch off engine and unscrew oil drain plug.
- If necessary pour in oil again up to lower edge of filler hole.
- Insert new screw -arrow- and tighten to tightening torque.
- If oil gets onto the angle gearbox and other components, it must be thoroughly removed.
- Install heat shield for drive shaft.
- Install the noise insulation ⇒ Body Work; Rep. Gr. 50 .



Tightening torques

Component	Tightening torque
Oil filler plug ¹⁾	15 Nm
Heat shield of drive shaft to angle gearbox	20 Nm

¹⁾ Always replace screw ⇒ Electronic Catalogue of Original Parts .

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35 – Wheels, shafts

1 Wheels and shafts

At present no repairs are carried out on the wheels and shafts.

ŠKODA



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39 – Final drive, differential gear

1 Replace gasket rings at gearbox and angle gearbox

1.1 Summary of components - Gasket rings



Note

Do not simultaneously remove both left and right flange shafts. If the differential bevel gears twist, it will be difficult to reinstall the flange shafts.

1 - Conical screw, 30 Nm

- ☐ always replace ⇒ Electronic Catalogue of Original Parts

2 - Right flange shaft

- ☐ only four-wheel drive

3 - Sealing ring

- ☐ on the right flange shaft
- ☐ only four-wheel drive
- ☐ always replace after removing the right flange shaft ⇒ [page 141](#)

4 - Needle bearing (polygon bearing)

- ☐ replace ⇒ [page 141](#)
- ☐ sluggish on removed flange shaft, this is not a sign of a defective bearing

5 - Lock washer

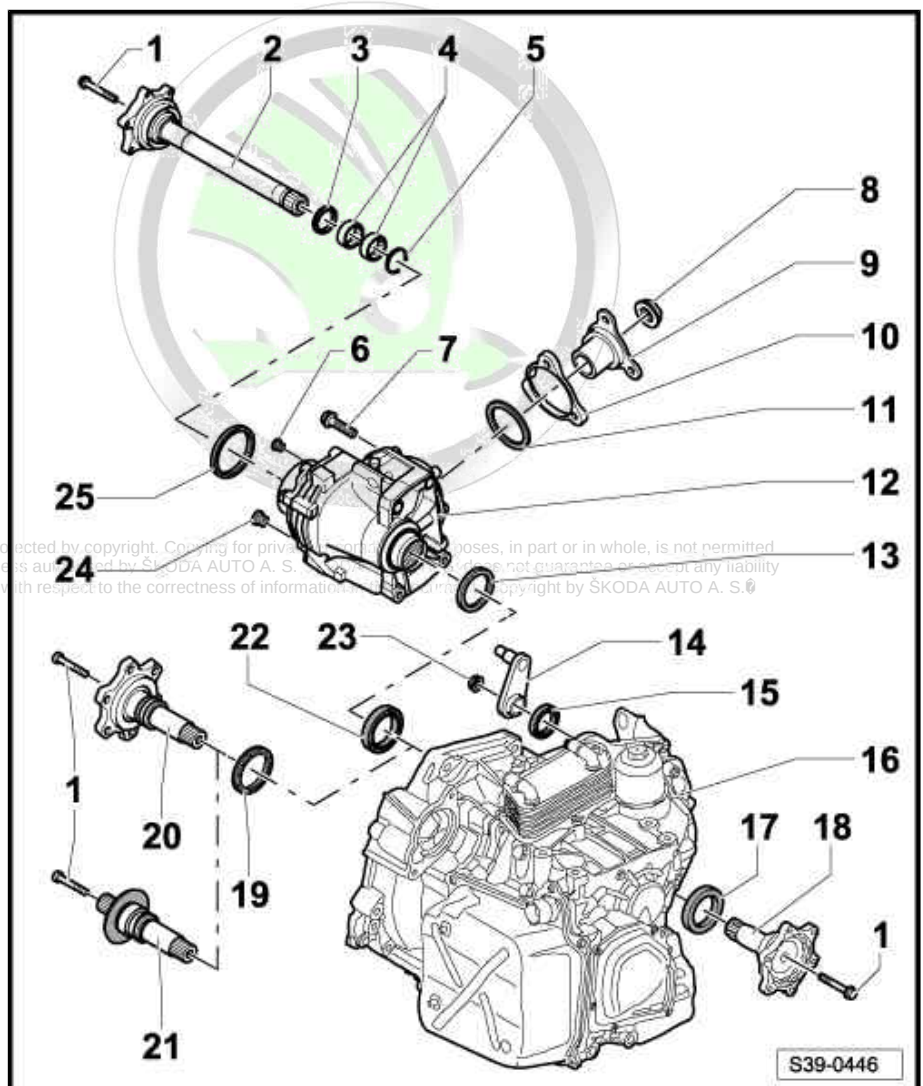
- ☐ always replace ⇒ Electronic Catalogue of Original Parts
- ☐ secures the needle bearings (polygon bearing) on the right flange shaft Pos. 2

6 - Oil filler plug, 15 Nm

- ☐ for angle gearbox
- ☐ Inspecting oil level in the angle gearbox ⇒ [page 124](#)
- ☐ always replace ⇒ Electronic Catalogue of Original Parts

7 - 40 Nm

- ☐ 4 pieces
- ☐ always replace ⇒ Electronic Catalogue of Original Parts



**8 - 480 Nm**

- ☐ Screwing off and on ⇒ [page 139](#)
- ☐ always replace ⇒ Electronic Catalogue of Original Parts
- ☐ coat with locking agent -D 000 600-

9 - Angle gearbox output flange**10 - Cover cap for output flange**

- ☐ replace if damaged

11 - Sealing ring

- ☐ for angle gearbox output flange
- ☐ replace ⇒ [page 139](#)

12 - Angle gearbox

- ☐ removing and installing ⇒ [page 118](#)

13 - Sealing ring

- ☐ in the angle gearbox to the gearbox
- ☐ replace ⇒ [page 138](#)
- ☐ only four-wheel drive

14 - Lever/gearshift shaft**15 - Gasket for gearshift shaft**

- ☐ replace ⇒ [page 63](#)

16 - Automatic Gearbox DSG - 02E**17 - Seal ring for left flange shaft**

- ☐ replace ⇒ [page 131](#)
- ☐ Front- and four-wheel drive

18 - Flange shaft left**19 - Seal ring for right flange shaft**

- ☐ replace ⇒ [page 132](#)
- ☐ only front-wheel drive

20 - Right flange shaft

- ☐ only front-wheel drive

21 - Right rigid shaft

- ☐ only on vehicles with front-wheel drive and intermediate shaft

22 - Sealing ring

- ☐ in the gearbox to the angle gearbox
- ☐ replace ⇒ [page 137](#)
- ☐ only four-wheel drive

23 - Nut, 20 Nm

- ☐ always replace ⇒ Electronic Catalogue of Original Parts

24 - Oil drain plug, 60 Nm

- ☐ for angle gearbox

25 - Sealing ring

- ☐ in the angle gearbox for the right flange shaft
- ☐ replace ⇒ [page 135](#)
- ☐ only four-wheel drive

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1.2 Replacing the left flange shaft gasket ring (vehicles with front- and four-wheel drive)

Special tools and workshop equipment required

- ◆ Thrust piece -T30028 (3305)-
- ◆ Sealing grease -G 052 128 A1-
- ◆ Catch pan

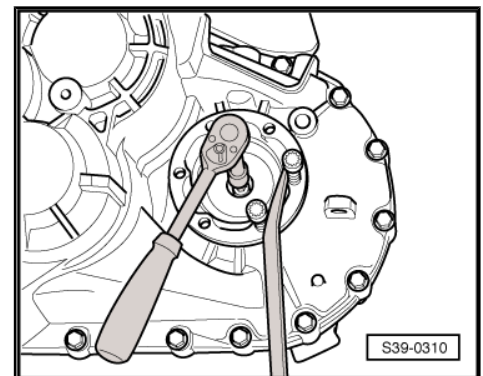


Note

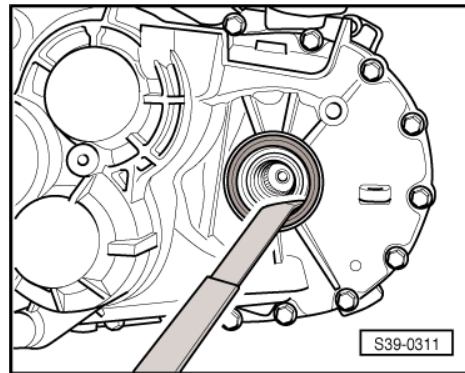
- ◆ General repair information ⇒ [page 12](#).
- ◆ Regulations concerning cleanliness when working on the gearbox ⇒ [page 12](#).
- ◆ Please pay attention to the subject "dirty oil" as well as to the instructions for oil filter change.
- ◆ When changing the gear oil, the gearbox oil filter must not always be replaced. Observe the instructions in which is listed when the gearbox oil filter must be replaced and when not ⇒ [page 12](#).

1.2.1 Removing

- Remove left wheel.
- Remove the sound dampening system ⇒ Body Work; Rep. Gr. 50.
- Remove the front left wheelhouse liner ⇒ Body Work; Rep. Gr. 66.
- Remove left drive shaft from flange shaft ⇒ Chassis; Rep. Gr. 40.
- Position the catch pan under the gearbox.
- Release fixing screw for flange shaft. To this end insert two screws in the flange and counterhold the flange shaft using a tyre iron.
- Remove the flange shaft with pressure spring.

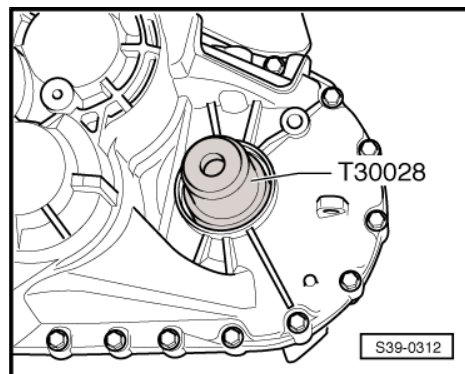


- Pull out gasket ring for flange shaft with ejection hook.



1.2.2 Install

- Lightly oil new gasket ring at outer surface.
- Fill half the space between the sealing lip and dust lip with sealing grease -G 052 128- .
- Drive in the new gasket ring up to stop. Do not tilt the gasket ring during this process.
- Insert the flange shaft.
- Secure the flange shaft with new conical screw.
- Attach the left drive shaft to the flange shaft ⇒ Chassis; Rep. Gr. 40 .
- Install the front left wheelhouse liner ⇒ Body Work; Rep. Gr. 66 .
- Install left wheel ⇒ Chassis; Rep. Gr. 44 .
- Inspect the gear oil level in the gearbox ⇒ [page 113](#) .
- Install the noise insulation ⇒ Body Work; Rep. Gr. 50 .



Tightening torque

Component	Nm
Flange shaft on gearbox (conical screw) 1)	⇒ page 129

1) Always replace screw ⇒ Electronic Catalogue of Original Parts .

1.3 Replacing gasket ring for flange shaft or right rigid shaft (vehicles with front-wheel drive)

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Special tools and workshop equipment required

- ◆ Drive bushing -MP3-489 (3158)-
- ◆ Tensioning strap -T10038-
- ◆ Sealing grease -G 052 128 A1-
- ◆ Catch pan

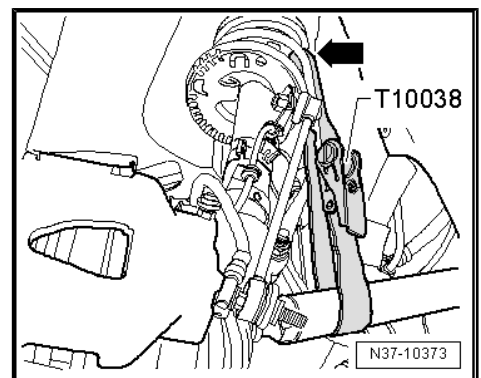
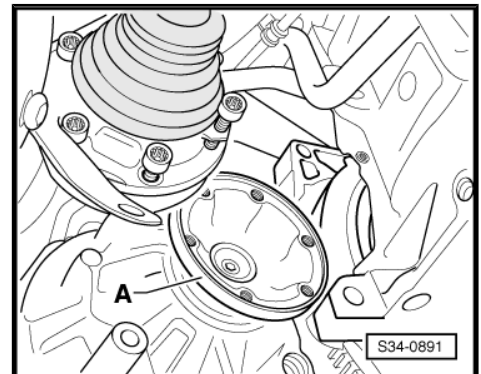
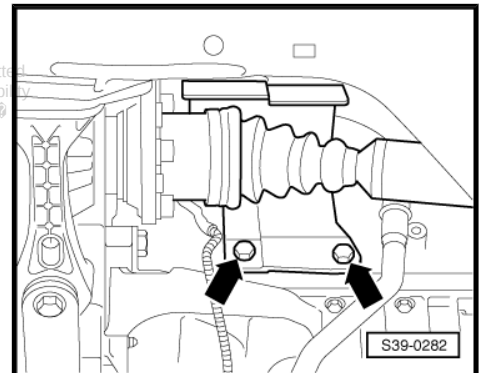
i Note

- ◆ General repair information ➔ [page 12](#).
- ◆ Regulations concerning cleanliness when working on the gearbox ➔ [page 12](#).
- ◆ Please pay attention to the subject "dirty oil" as well as to the instructions for oil filter change.
- ◆ When changing the gear oil, the gearbox oil filter must not always be replaced. Observe the instructions in which is listed when the gearbox oil filter must be replaced and when not ➔ [page 12](#).

1.3.1 Removing

- Remove right wheel.
- Remove the sound dampening system ➔ Body Work; Rep. Gr. 50.
- Remove protective cap for right drive shaft (if present) from the engine -arrows-.
- Remove the right drive shaft from the flange shaft of the gearbox or the right drive shaft from the flange of the intermediate shaft ➔ Chassis; Rep. Gr. 40.
- Tie up the drive shaft as far as possible. Avoid damaging the paintwork on the drive shaft during this operation.

Vehicles with intermediate shaft



- Remove right intermediate shaft -C- from bracket -D- -arrows- and pull off from the rigid shaft of the gearbox.

Continued for all vehicles:

- Position the catch pan under the gearbox.

Vehicles with flange shaft:

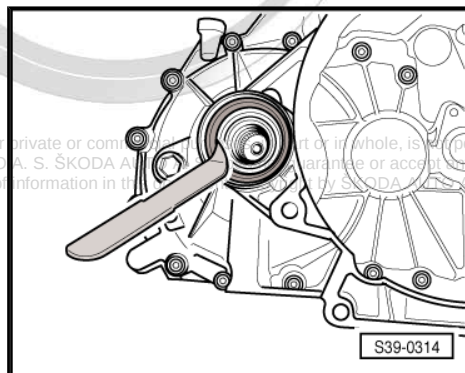
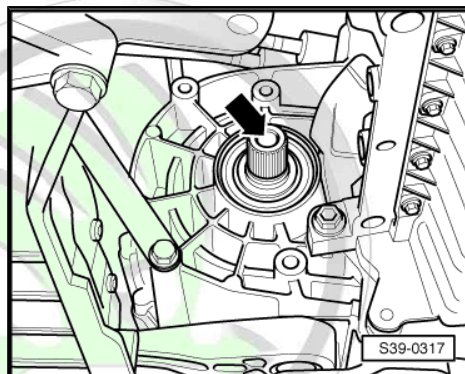
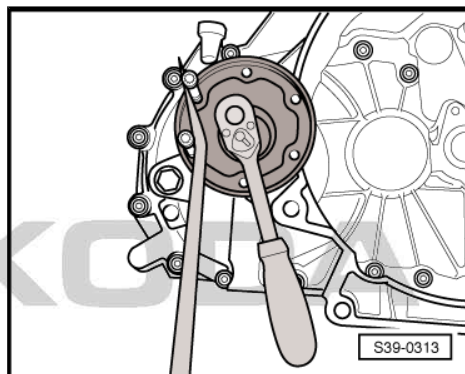
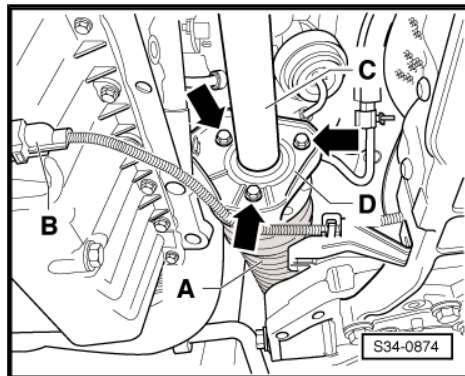
- Release the fixing screw for the right flange shaft, to this end insert two screws in the flange and counterhold the flange shaft using an assembly lever.
- Remove the flange shaft with pressure spring.

Vehicles with intermediate shaft

- Unscrew fixing screw -arrow- for rigid shaft.
- Remove the rigid shaft with pressure spring.

Continued for all vehicles:

- Pull the gasket ring out of the gearbox using an ejection hook or assembly lever.



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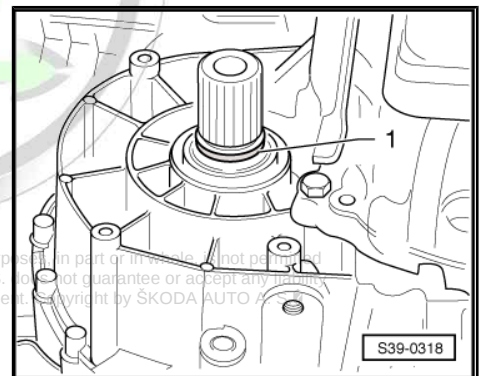
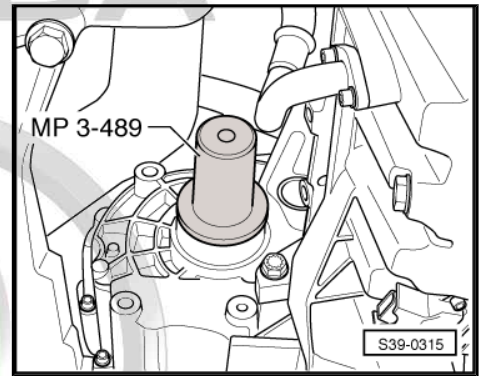
1.3.2 Install

- Lightly oil new gasket ring at outer surface.
- Fill half the space between the sealing lip and dust lip with sealing grease -G 052 128- .

- Drive in the new gasket ring up to stop. Do not tilt the gasket ring during this process.
- Insert rigid shaft or flange shaft.
- Secure the rigid shaft or the flange shaft with new conical screw and tighten to tightening torque.

Vehicles with intermediate shaft

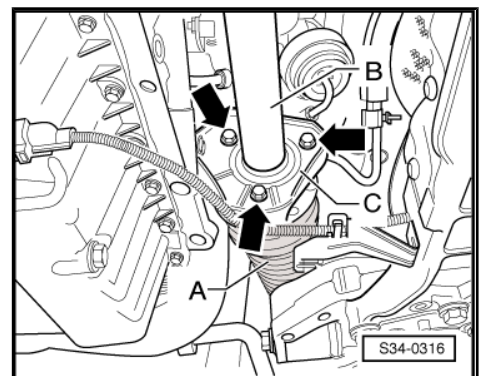
- Replace gasket ring -1- of rigid shaft.
- Grease the spline with grease for plug serration of clutch disc -G 000 100-



- Guide the intermediate shaft -B- through the bracket -C- onto the rigid shaft of the gearbox.
- Tighten the intermediate shaft to the bracket with specified tightening torque -arrows- ⇒ Chassis; Rep. Gr. 40 .

Continued for all vehicles

- Install right drive shaft ⇒ Chassis; Rep. Gr. 40 .
- Install cap for drive shaft, if it was removed.
- Install right wheel ⇒ Chassis; Rep. Gr. 44 .
- Inspect the gear oil level in the gearbox ⇒ [page 113](#) .
- Install the noise insulation ⇒ Body Work; Rep. Gr. 50 .



Tightening torques

Component	Nm
Rigid shaft/flange shaft on gearbox (conical screw) ¹⁾	⇒ page 129
Protective cap drive shaft on engine	⇒ Chassis; Rep. Gr. 40

¹⁾ Always replace screw ⇒ Electronic Catalogue of Original Parts .

1.4 Replacing the right flange shaft gasket ring (vehicles with four-wheel drive)

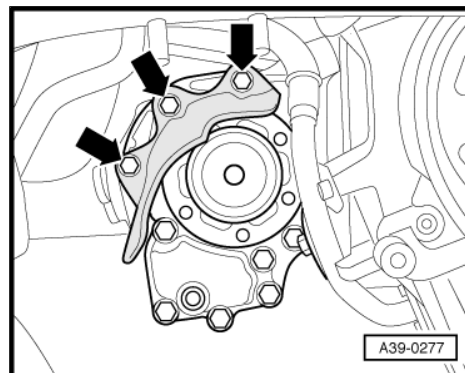
Special tools and workshop equipment required

- ◆ Ejection lever -MP3-418 (VW 681)-
- ◆ Extractor -T10037-
- ◆ Thrust piece -T10049-
- ◆ Socket insert -T10107 A-

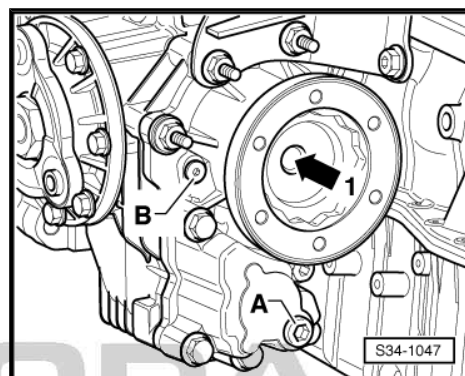
- ◆ Catch pan
- ◆ Sealing grease -G 052 128 A1-

1.4.1 Removing

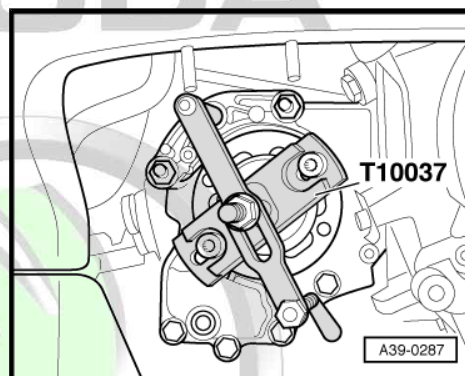
- Remove right wheel.
- Remove the sound dampening system ⇒ Body Work; Rep. Gr. 50 .
- Remove the front right wheelhouse liner ⇒ Body Work; Rep. Gr. 66 .
- If applicable remove cap for drive shaft -arrows-.
- Remove drive shaft to the right ⇒ Chassis; Rep. Gr. 40 .
- Position the catch pan under the angle gearbox.



- Remove the right flange shaft bolt -arrow- using the socket insert -T10107 A- .



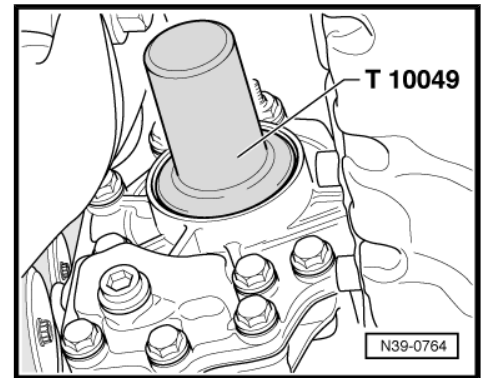
- Screw extractor -T10037- onto right flange shaft.
- Take out the flange shaft.
- Pull out gasket ring with ejection lever -MP3-418- .



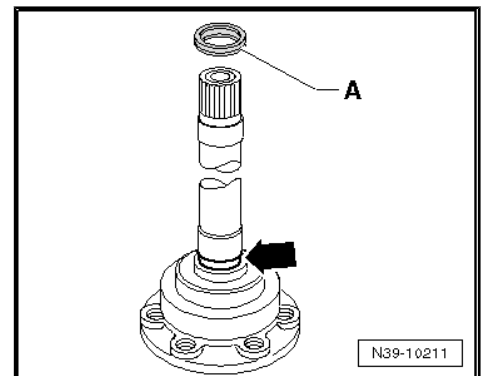
1.4.2 Install

- Lightly oil new gasket ring at outer surface.

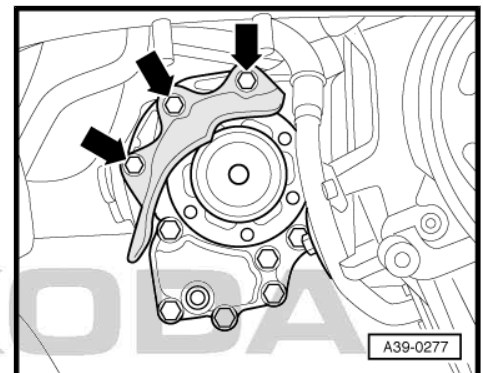
- Drive in the new gasket ring with thrust piece -T10049- up to the stop, do not twist the new gasket ring.
- Fill half the space between the sealing lip and dust lip with sealing grease -G 052 128 A1- .



- Remove gasket ring -A- from the groove -arrow- of the flange shaft and replace ➔ [page 141](#) .
- Carefully drive in flange shaft (slowly turn flange shaft).
- Secure the flange shaft with new conical screw and tighten to tightening torque.
- Install right drive shaft ➔ Chassis; Rep. Gr. 40 .



- Install cap for drive shaft -arrows-, if it was removed.
- Inspecting oil level in the angle gearbox ➔ [page 124](#) .
- Install the front right wheelhouse liner ➔ Body Work; Rep. Gr. 66 .
- Install the noise insulation ➔ Body Work; Rep. Gr. 50 .
- Attach the right front wheel ➔ Chassis; Rep. Gr. 44 .



Tightening torques

Component	Nm
Flange shaft on gearbox (conical screw) 1)	➔ page 129
Protective cap drive shaft on angle gearbox	➔ page 123

1) Always replace screw ➔ Electronic Catalogue of Original Parts .

1.5 Replacing gasket ring between angle gearbox and gearbox on installed gearbox (vehicles with four-wheel drive)

Special tools and workshop equipment required

- ◆ Thrust piece -T10243-
- ◆ Extractor tool -T20143-
- ◆ Catch pan

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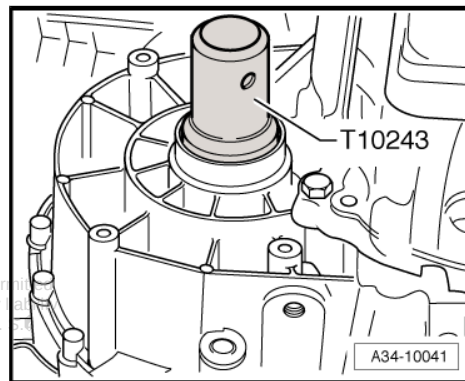
- ◆ Sealing grease -G 052 128 A1-

Removing

- Remove angle gearbox ⇒ [page 118](#) .
- Position the catch pan under the gearbox.
- Pull out gasket ring for gearbox with extractor tool -T20143 - .

Install

- Lightly oil new gasket ring at outer surface.
- Fill half the space between the sealing lip and dust lip with sealing grease -G 052 128 A1- .
- Drive in the new gasket ring with thrust piece -T10243- up to the stop, do not twist the new gasket ring.
- Install angle gearbox ⇒ [page 121](#) .
- Inspect the gear oil level in the gearbox ⇒ [page 113](#) .



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1.6 Replacing gasket ring between angle gearbox and gearbox on removed angle gearbox (vehicles with four-wheel drive)

Special tools and workshop equipment required

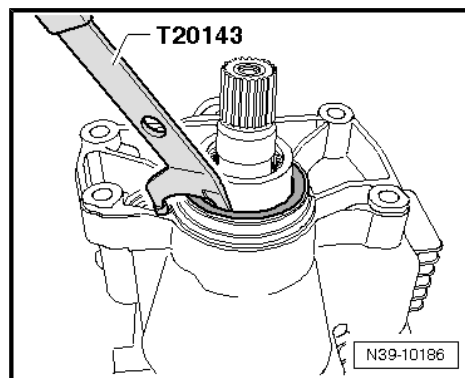
- ◆ Thrust piece -T10298-
- ◆ Extractor tool -T20143-
- ◆ Catch pan
- ◆ Sealing grease -G 052 128 A1-

Removing

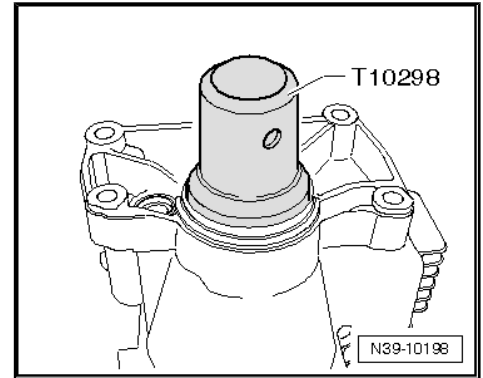
- Remove angle gearbox ⇒ [page 118](#) .
- Pull out gasket ring for angle gearbox with extractor tool -T20143- .

Install

- Lightly oil new gasket ring at outer surface.
- Fill half the space between the sealing lip and dust lip with sealing grease -G 052 128 A1- .



- Drive in the new gasket ring with thrust piece -T10298- up to the stop, do not twist the new gasket ring.
- Install angle gearbox ⇒ [page 121](#) .
- Inspecting oil level in the angle gearbox ⇒ [page 124](#) .



1.7 Replacing the gasket ring for angle gearbox output flange (vehicles with four-wheel drive)

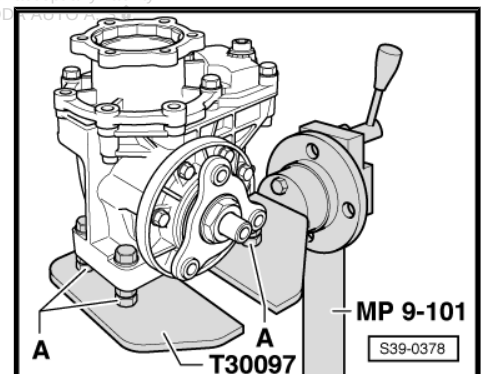
Special tools and workshop equipment required

- ◆ Pipe section -MP3-414 (VW 516)-
- ◆ Multi-purpose tool -MP3-419 (VW 771)-
- ◆ Thrust plate -MP3-467 (40-105)-
- ◆ Assembly stand -MP9-101-
- ◆ Thrust piece -T10049-
- ◆ Gearbox mount -T30097 (T10108) -
- ◆ Support -T30097/1 (T10108/1)-
- ◆ Two-arm extractor , e.g. -Kukko 20/10-
- ◆ Three armed extractor e.g. -Kukko 45-2-
- ◆ Tapered-roller bearing extractor -V.A.G 1582-
- ◆ Gripper -V.A.G 1582/6-
- ◆ Catch pan
- ◆ Sealing grease -G 052 128 A1-
- ◆ Locking agent - D 000 600-

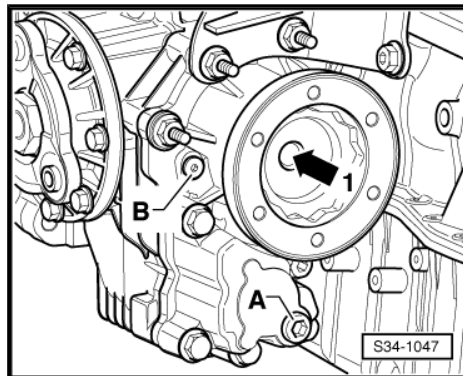
The gasket ring for the angle gearbox output flange can only be replaced with the angle gearbox removed.

1.7.1 Removing

- Remove angle gearbox ⇒ [page 118](#) .
- Screw angle gearbox on gearbox mount - T30097- .
A - Place nut M12 x 10 (8 pieces) between angle gearbox and gearbox mount -T30097- .
- Position the catch pan under the angle gearbox.

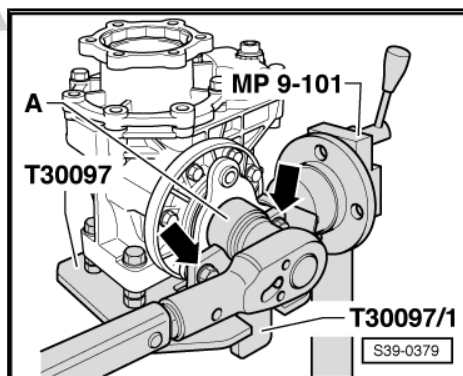


- Remove oil drain plug -A- from angle gearbox.
- Drain oil out of angle gearbox.
- Install oil drain plug -A- and tighten to tightening torque.



- Lock the output flange for angle gearbox with bracket -T30097/1- and two screws M10 x 30 -arrows-.
- Unscrew nut for output flange (always replace nut ⇒ Electronic Catalogue of Original Parts).

A - socket wrench insert SW 36



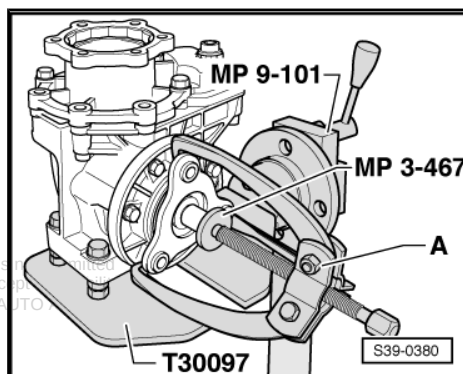
- Detach output flange with three armed extractor -A- and thrust plate -MP3-467- .

A - Three armed extractor e.g. -Kukko 45-2-



Note

When pulling off the output flange the inner ring/tapered-roller bearing remains on the output flange and must be removed from it.



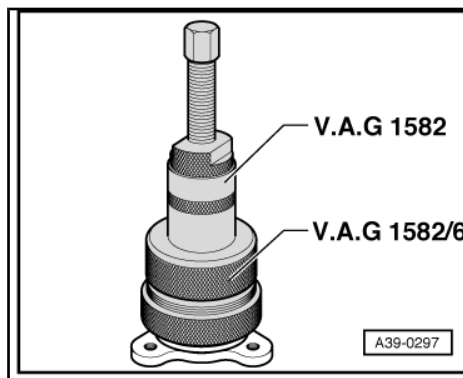
- Remove inner ring/tapered-roller bearing with tapered-roller bearing extractor -V.A.G 1582- and gripper -V.A.G 1582/6- from output flange.



Note

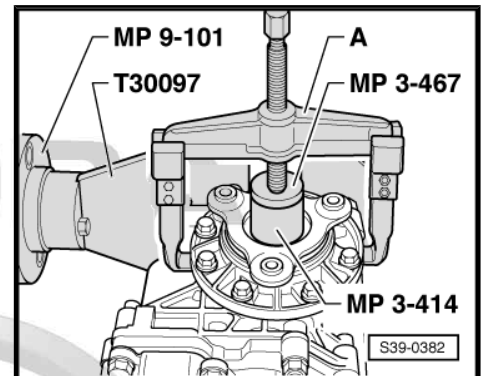
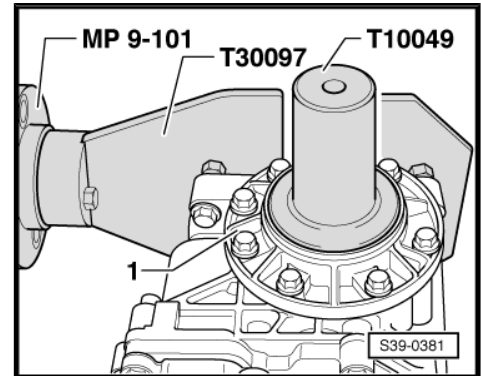
Instead of the gripper -V.A.G 1582/6- , the gripper -V.A.G 1582/6 A- can also be used.

- Pull out seal ring for angle gearbox output flange with Multi-purpose tool -MP3-419- .
- Clean the thread at the shank bevel gear, for the securing nut of the output flange, to remove locking agent residues.

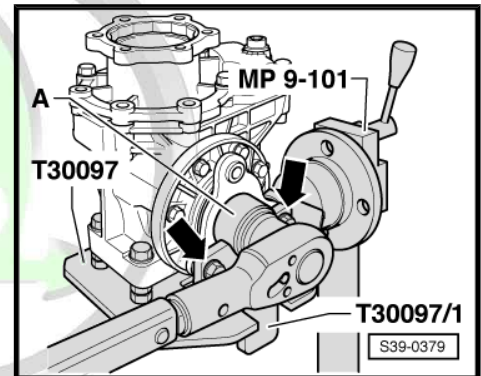


1.7.2 Install

- Swivel angle gearbox in such a way that the cover -1- points upwards.
- Place inner ring/tapered-roller bearing in the angle gearbox.
- Lightly oil new gasket ring at outer surface.
- Drive in the new gasket ring with thrust piece -T10049- up to the stop, do not twist the new gasket ring.
- Fill half the space between the sealing lip and dust lip with sealing grease -G 052 128 A1- .
- Insert output flange with two-arm extractor -A-, pipe section -MP3-414- and pressure plate - MP3-467- , while doing so position the pull-off hooks of the extractor on the bottom side of the housing.
- Coat the thread of the new nut with locking agent -D 000 600- .



- Install new nut and tighten to tightening torque.
- A - socket wrench insert SW 36
- Install angle gearbox ➔ [page 121](#) .
- After installing, check the oil level in the angle gearbox and top up with oil ➔ [page 124](#) .



Tightening torques

Component	Nm
Drain screw	➔ page 129
Nut for output flange ¹	➔ page 129

¹⁾ Always replace nut ➔ Electronic Catalogue of Original Parts

1.8 Replacing the needle bearing (polygon bearing) and gasket ring on the right flange shaft (vehicles with four-wheel drive)

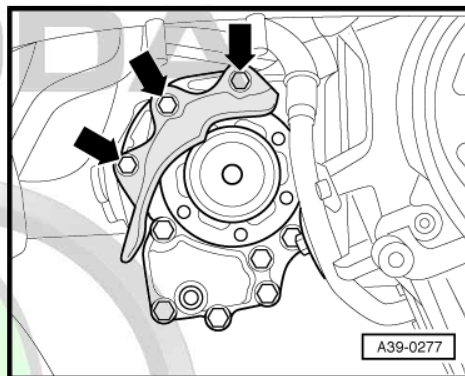
Special tools and workshop equipment required

- ◆ Pressure plate -MP3-406 (VW 401)-
- ◆ Pressure plate -MP3-407 (VW 402)-

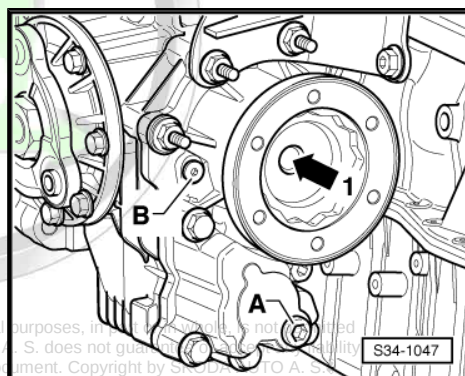
- ◆ Pressure spindle -MP3-408 (VW 412)-
- ◆ Pressure spindle -MP3-423 (VW 407)-
- ◆ Assembly device -MP6-414 (3253)-
- ◆ Extractor -T10037-
- ◆ Assembly device -T10047-
- ◆ Socket insert -T10107 A-
- ◆ Catch pan

1.8.1 Removing

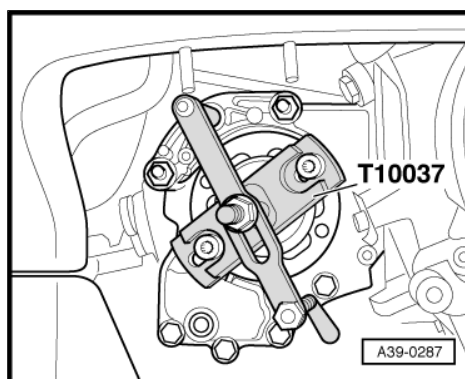
- Remove right wheel.
- Remove the sound dampening system ⇒ Body Work; Rep. Gr. 50 .
- Remove the front right wheelhouse liner ⇒ Body Work; Rep. Gr. 66 .
- If applicable remove cap for drive shaft -arrows-.
- Remove right drive shaft ⇒ Chassis; Rep. Gr. 40 ⇒ Chassis; Rep. Gr. 40 .
- Position the catch pan under the angle gearbox.



- Remove the right flange shaft bolt -arrow- using the socket insert -T10107 A- .

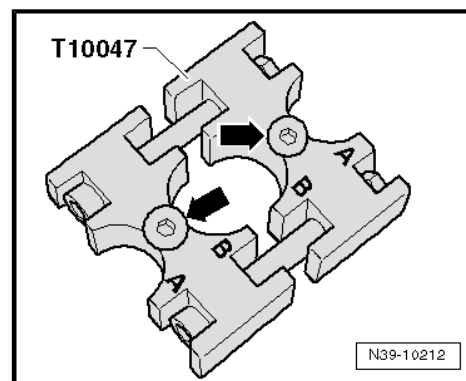


- Screw extractor -T10037- onto right flange shaft.
- Take out the flange shaft.

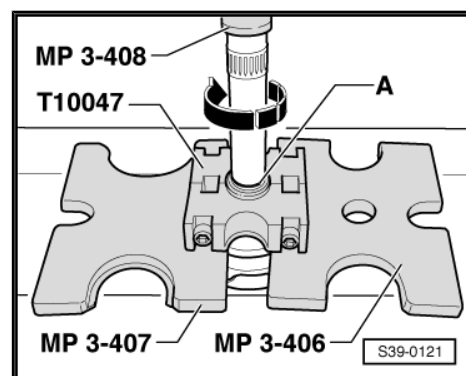


Install assembly device -T10047- as described further on:

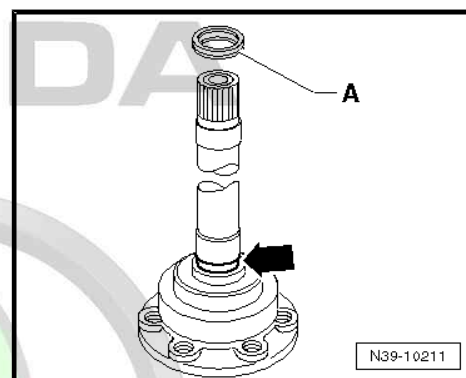
- Assemble both parts of the assembly device , so that the markings -B- point towards each other.
- The shoulders -arrows- must be under the bearing.
- Screw together both halves up to the stop.



- Remove circlip -A- for the needle bearing.
- In order to avoid damaging the contact surface of the needle bearing on the shaft, turn the shaft during the pressing procedure -arrow-.

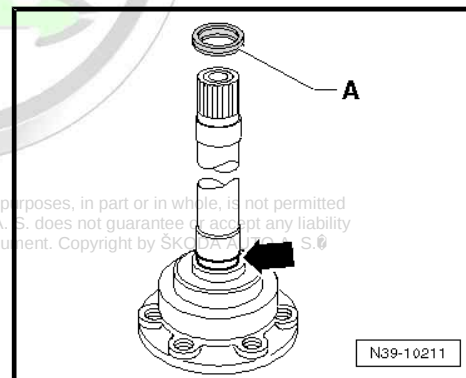


- Remove gasket ring -A- from the slot -arrow-.



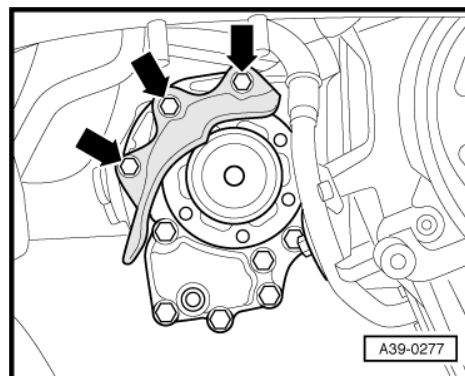
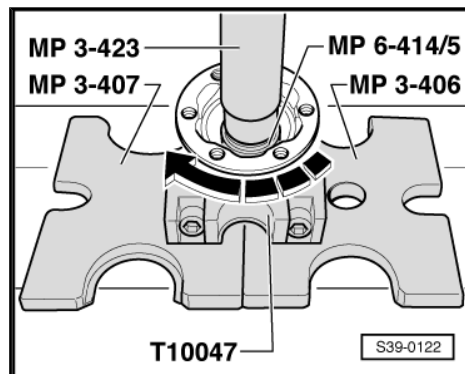
1.8.2 Install

- The installation occurs in reverse order, while paying attention to the following.
- Moisten gasket ring -A- with gear oil.
- Insert new gasket ring -A- into the slot -arrow-.
- Install assembly device -T10047- => [page 143](#) .



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- In order to avoid damaging the contact surface of the needle bearing on the shaft, turn the shaft during the pressing procedure -arrow-.
- Secure bearing with new circlip ⇒ Electronic Catalogue of Original Parts .
- Carefully drive in flange shaft (slowly turn flange shaft).
- Secure the flange shaft with a new conical screw and tighten to tightening torque.
- Install right drive shaft ⇒ Chassis; Rep. Gr. 40 .
- Install cap for drive shaft -arrows-, if it was removed.
- Inspecting oil level in the angle gearbox ⇒ [page 121](#) .
- Install the front right wheelhouse liner ⇒ Body Work; Rep. Gr. 66 .
- Install the noise insulation ⇒ Body Work; Rep. Gr. 50 .
- Install right wheel ⇒ Chassis; Rep. Gr. 44 .



Tightening torques

Component	Nm
Flange shaft on gearbox (conical screw) 1)	⇒ page 129
Protective cap drive shaft on angle gearbox	⇒ page 123

1) Always replace screw ⇒ Electronic Catalogue of Original Parts .

2 Removing and installing propshaft



Note

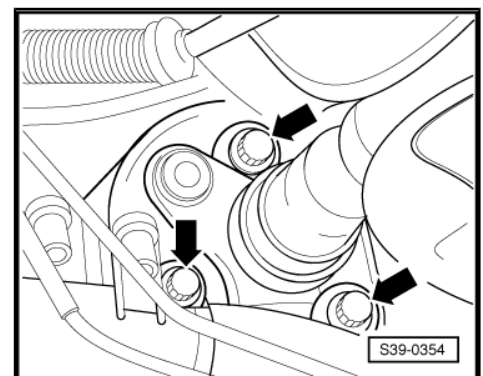
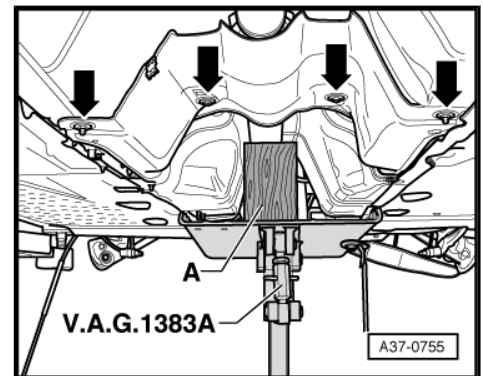
- ◆ *Work on the propshaft should be carried out on a two-pillar lift platform.*
- ◆ *Before the removal, mark the position of all parts to each other. Carry out the installation again in the same position, otherwise the imbalance is too great, damages to the bearing and humming noises could occur.*
- ◆ *The flexible disks on the propshaft and the corresponding fixing screws are not available as a spare part. Thus in case of damage, the entire propshaft must be replaced ⇒ Electronic Catalogue of Original Parts .*
- ◆ *Do not bend the propshaft, only store extended and transport.*
- ◆ *When removing, do not let the propshaft "hang", always support it.*
- ◆ *Always remove or mount the propshaft horizontally from the centering stud.*

Special tools and workshop equipment required

- ◆ Engine/gearbox jack , e.g. -V.A.G 1383A-

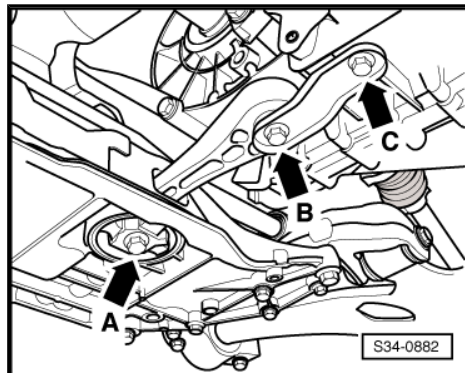
2.1 Remove propshaft

- Remove the sound dampening system ⇒ Body Work; Rep. Gr. 50 .
- Removing the whole exhaust gas system ⇒ Engine; Rep. Gr. 26 .
- Remove the heat shield below the propshaft -arrows-.
- Place a suitable piece of wood -A- onto the gearbox mount and support the propshaft in the "rear" area.
- is not permitted unless authorised by SKODA AUTO A. S. SKODA AUTO A. S. does not guarantee or accept any liability
Secure the propshaft against falling down with a belt.
- Mark the position of the propshaft with flexible disk to the output flange of the angle gearbox.



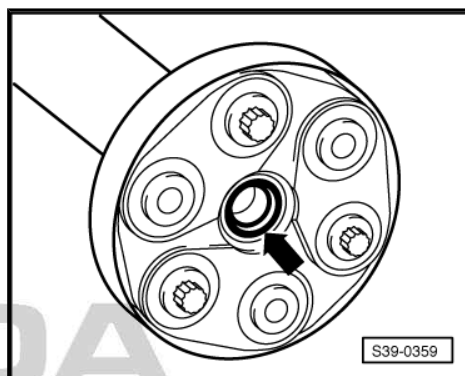
- Unscrew the propshaft with flexible disk from the output flange of the angle gearbox -arrows- thereby counterhold at the propshaft flange.

- Remove pendulum support from gearbox, to do so release the bolts -arrow B- and -arrow C-.

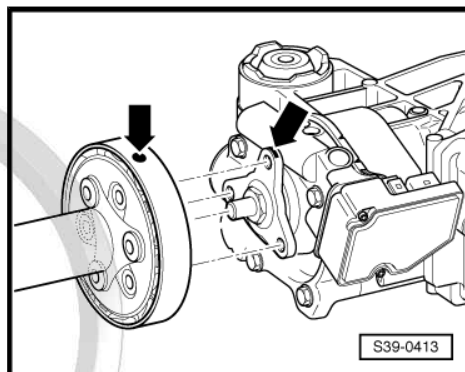


Note

After unscrewing the fixing bolts of the pendulum support at the gearbox, the engine/gearbox assembly can be pushed forward slightly. When removing and installing make sure that the gasket ring -arrow- in the flange of the propshaft is not damaged.

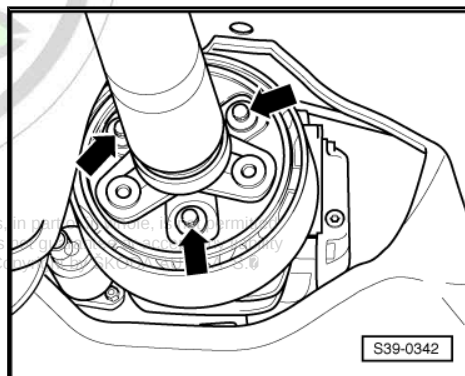


- Check, if a marking (colour point) is present on the flexible disk/oscillation damper and at the flange on the Haldex coupling -arrows-. If not, mark the position of the flexible disk and the flange on the Haldex coupling to each other -arrows-.



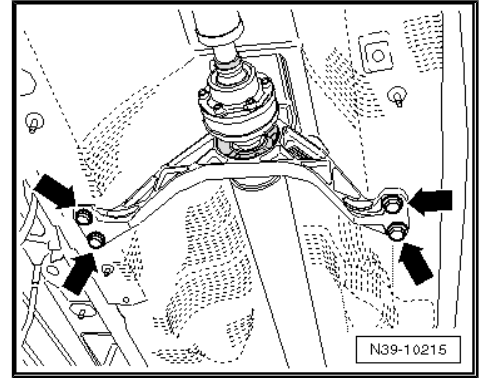
- Unscrew propshaft with flexible disk and oscillation damper from rear final drive -arrows-.

A second person is required to secure the front propshaft pipe for the further removal operations.



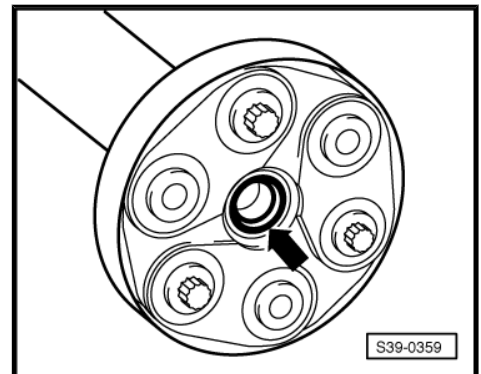
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- Unscrew intermediate bearing of propshaft from the structure -arrows-.
- Guide the propshaft towards the front. While doing so, slightly press the engine/gearbox assembly forwards.
- Afterwards remove the propshaft from the flange at the Haldex coupling (centering stud) on the rear final drive.
- Then pull off the propshaft from the output flange (centering stud) of the angular gearbox.



Note

- ◆ Do not tilt propshaft when removing, detach horizontally from centering stud of angular gearbox and from centering stud of rear final drive. The gasket ring/centering bushing -arrow- must not be damaged, otherwise the propshaft has to be replaced.
- ◆ Do not bend the propshaft, only store extended and transport.



2.2 Install propshaft

Installation is performed in the reverse order, pay attention to the following points:

When re-installing, fit all parts of the propshaft marked to each other in the same position.

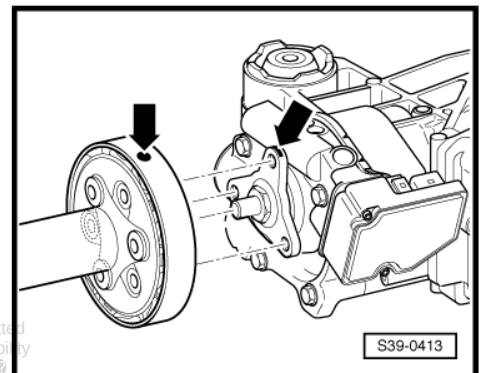
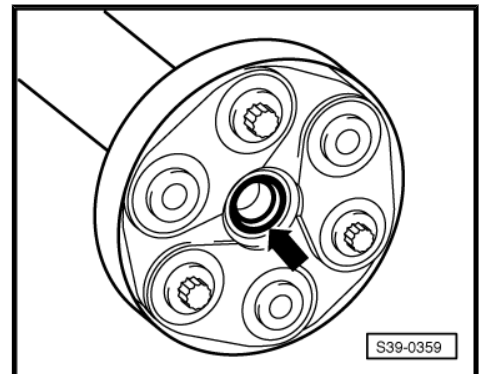
The gasket rings -arrow- in the flanges of the propshaft must not be damaged when removing and installing. In case of damaged gasket rings the propshaft must be replaced.

- Push propshaft horizontally onto the respective centering studs.

Fitting position:

Three protruding bushings at the angle gearbox flange or the Haldex coupling flange from the rear final drive grip into the location holes of the flexible disks/propshaft.

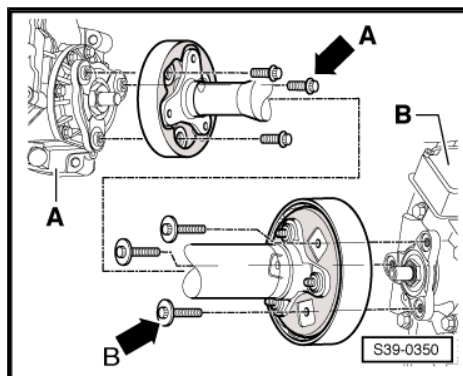
- Install the propshaft on the flange of the Haldex coupling and on the output flange of the angle gearbox in such a way that the markings -arrows- are on the same line.



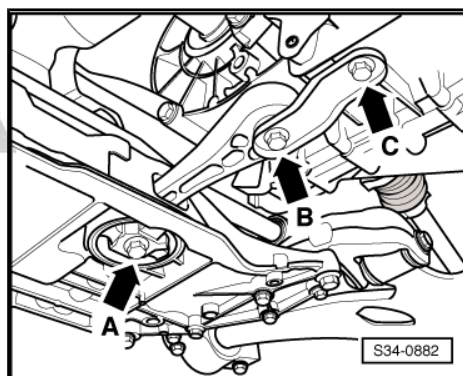


Observe fitting location of the different collar screws.

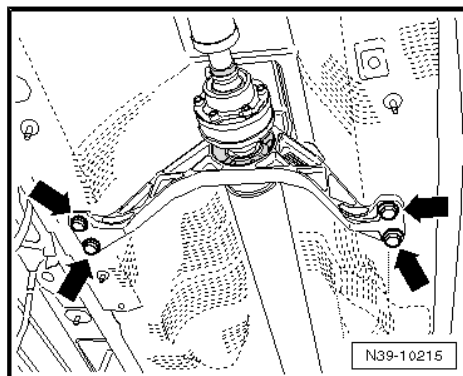
Collar screw with	Fitting location
small collar -arrow A- (M10 x 30)	Propshaft on front final drive -A-
large collar -arrow B- (M10 x 45)	Propshaft on rear final drive -B-



- Screw the pendulum support with new screws -arrow B- and -arrow C- onto the gearbox ⇒ Engine; Rep. Gr. 10 .



- Align intermediate bearing in its elongated holes in such a way that the propshaft or the intermediate bearing is not under tension.
- Only screw down intermediate bearing after tightening the propshaft -arrows-.
- Install the heat shield below the propshaft.
- Install exhaust system and align free of stress ⇒ Engine; Rep. Gr. 26 .
- Install the noise insulation ⇒ Body Work; Rep. Gr. 50 .



Note

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- ♦ If droning noises occur while driving, the following must be observed.
- ♦ Unscrew the propshaft with the flexible disk from the flange of the Haldex coupling and screw on again offset to a hole.
- ♦ If the droning noises can still be heard, the propshaft must be screwed on once again offset to a hole.

Tightening torques

Component	Nm
Intermediate bearing to body	⇒ page 149
Propshaft to rear final drive	⇒ page 149
Propshaft to angle gearbox	⇒ page 149

3 Repairing propshaft

Note

- ◆ During the manufacture, the entire propshaft is balanced, in order to obtain the smoothest running possible. The balancing of the entire propshaft is not possible with workshop tools. Thus in case of damage, the entire propshaft must be replaced ⇒ *Electronic Catalogue of Original Parts*.
- ◆ Do not bend the propshaft, only store extended and transport.
- ◆ Before the removal, mark the position of all parts to each other. Carry out the installation again in the same position, otherwise the imbalance is too great, damages to the bearing and humming noises could occur.
- ◆ The flexible disks on the propshaft and the corresponding fixing screws are not available as a spare part. Thus in case of damage, the entire propshaft must be replaced ⇒ *Electronic Catalogue of Original Parts*.

1 - Angle gearbox

2 - 60 Nm

- ☐ 3 pieces
- ☐ M10 x 30
- ☐ Assignment
⇒ [page 150](#)

3 - Propshaft

- ☐ removing and installing
⇒ [page 145](#)
- ☐ when installing and removing do not damage the centering bushing and gasket ring in the middle of the flange
- ☐ Fitting position: the intermediate bearing Pos. 5 is located in the direction of travel behind the monoblock joint -arrow-

4 - 60 Nm

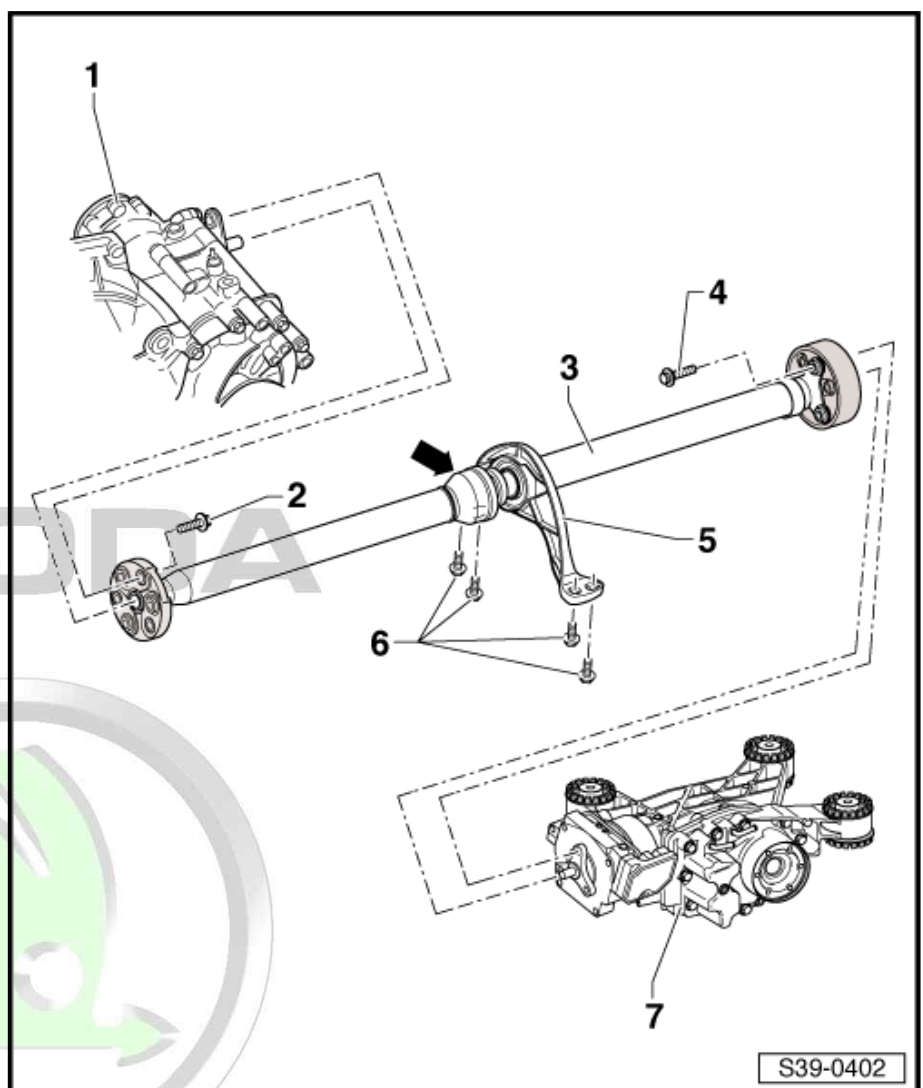
- ☐ 3 pieces
- ☐ M10 x 45
- ☐ Assignment
⇒ [page 150](#)

5 - Intermediate bearing

- ☐ align free of stress
- ☐ replace propshaft if damaged

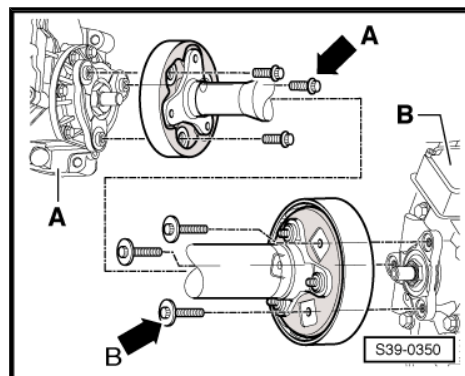
6 - 25 Nm

7 - Rear final drive




Observe fitting location of the different collar screws

Collar screw with	Fitting location
small collar -arrow A- (M10 x 30)	Propshaft on front final drive -A-
large collar -arrow B- (M10 x 45)	Propshaft on rear final drive -B-



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4 Removing and installing the rear final drive

4.1 Summary of components - Removing and installing the rear final drive



The -arrow- shows the direction of travel.

1 - Rear assembly carrier

2 - Drive shaft

- ☐ removing and installing
⇒ Chassis; Rep. Gr. 42

3 - Rear final drive

- ☐ removing and installing
⇒ [page 152](#)
- ☐ Replace the rubber-metal bearing
⇒ [page 159](#)

4 - Stop washer

- ☐ mount onto the rubber-metal bearing
⇒ [page 152](#)

5 - Screw

- ☐ 3 pieces
- ☐ Tightening torque ⇒ Chassis; Rep. Gr. 42
- ☐ Assignment ⇒ Electronic Catalogue of Original Parts

6 - Propshaft

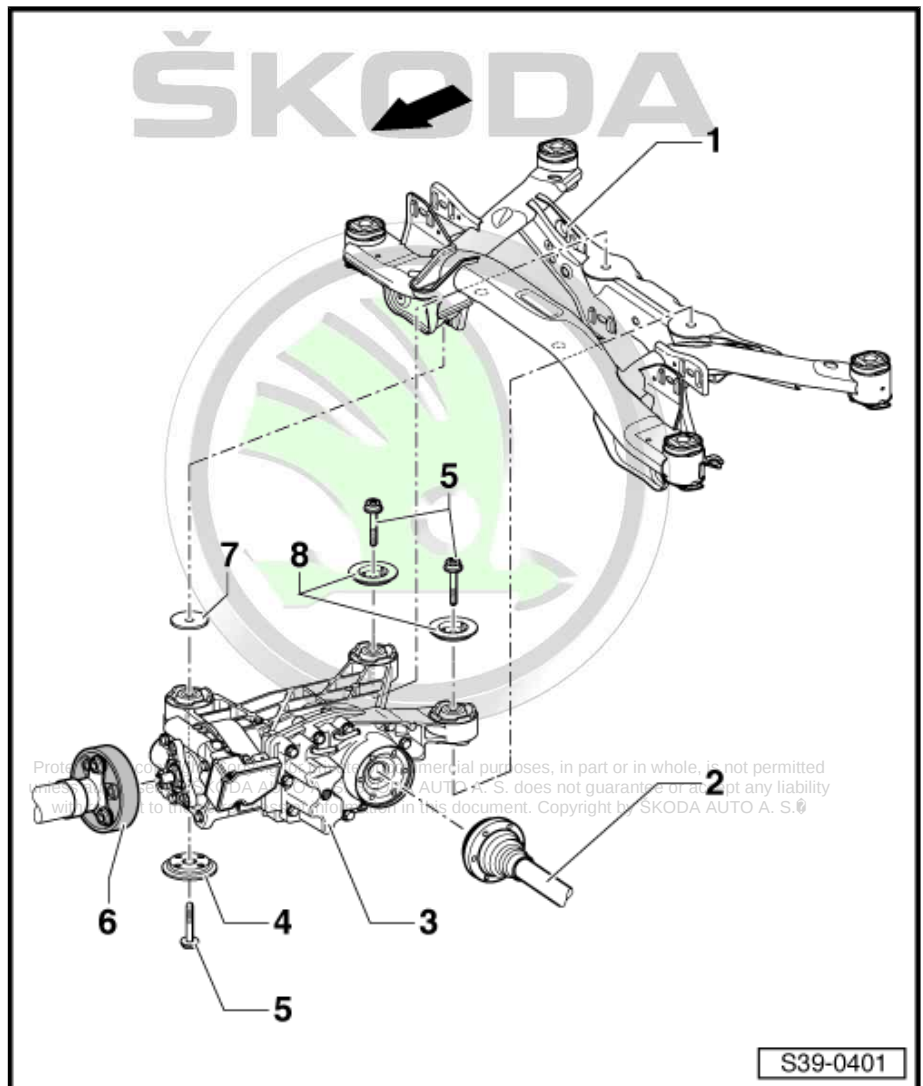
- ☐ removing and installing
⇒ [page 145](#)

7 - Washer

- ☐ installed between final drive and assembly carrier
- ☐ on certain vehicles 2 washers can also be present
- ☐ Re-install the same number of washers

8 - Stop washer

- ☐ mount onto the rubber-metal bearing ⇒ [page 152](#)



Fitting position of the rubber-metal bearings "rear top" and "front bottom". Fitting position of the stop washer -B-

- Final drive in fitting position

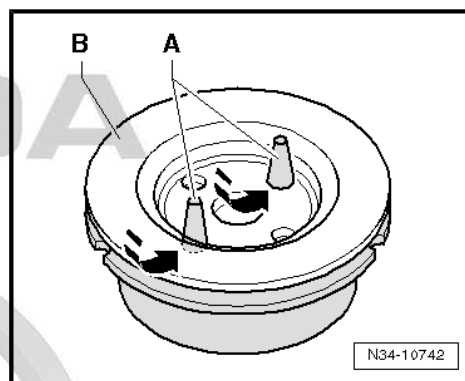
Fitting position of the rubber-metal bearings "rear top" and "front bottom":

- ♦ The rubber-metal bearings "rear top" point with the stud -A- to the top
- ♦ The rubber-metal bearing "front bottom" points with the stud -A- to the bottom

Fitting position of the stop washer -B-

- Insert the pegs -A- in the holes of the stop washer -arrows-.

The stop washer -B- is then connected captively with the rubber-metal bearing.



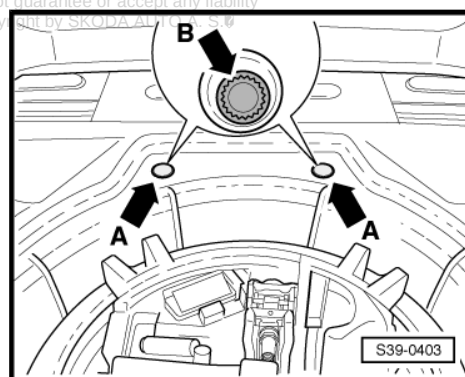
4.2 Removing and installing the rear final drive

Special tools and workshop equipment required

- ♦ Engine/gearbox jack , e.g. -V.A.G 1383A-

4.2.1 Removing

- Remove luggage compartment floor covering.
- Unclip the two rubber plugs -arrows A- in the luggage compartment floor.
- Unscrew both screws -arrow B- for the rear final drive to the assembly carrier from the top through the holes in the luggage compartment floor.
- Raise vehicle.



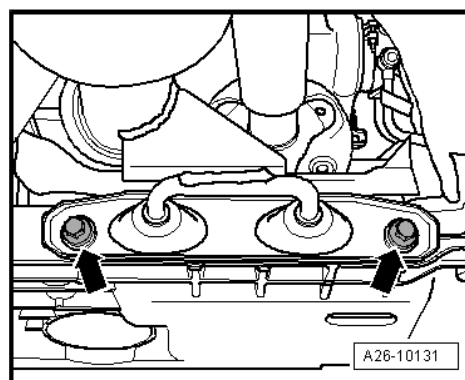
- Separate exhaust system at the double clamp and remove bracket for the exhaust system from the assembly carrier ⇒ Engine; Rep. Gr. 26 .
- Tie up pre-exhaust pipe.



Note

The decoupling elements in the exhaust pipe should not be bent by more than 10° - risk of damage.

- Remove the rear part of the exhaust system from the double clamp ⇒ Engine; Rep. Gr. 26 .
- Remove the heat shield below the propshaft.

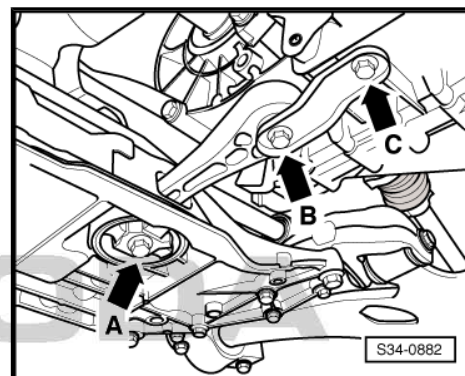


- Remove pendulum support from gearbox, to do so release the bolts -arrow B- and -arrow C-.

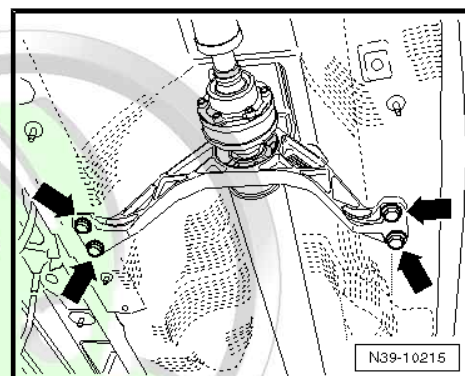


Note

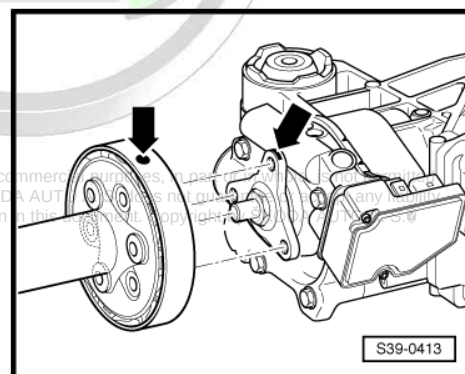
Do not release screw -arrow A-.



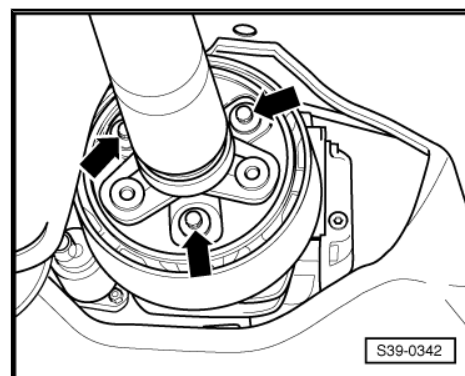
- Slacken intermediate bearing of propshaft from the structure by approx. 4 turns -arrows-.



- Check, if a marking (colour point) is present on the flexible disk/oscillation damper and at the flange on the Haldex coupling -arrows-. If not, mark the position of the flexible disk and the flange on the Haldex coupling to each other -arrows-.

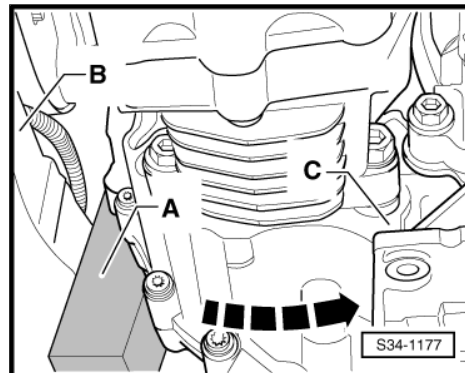


- Unscrew propshaft with flexible disk and oscillation damper from rear final drive -arrows-.



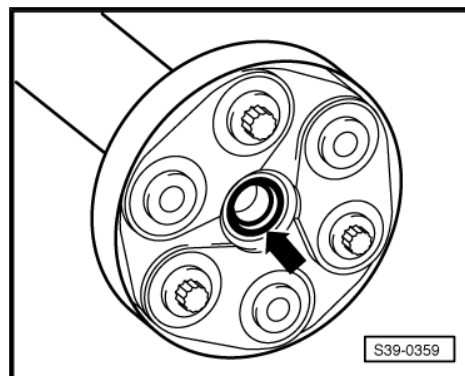
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- Subsequently push the engine/gearbox unit to the front with a 2nd mechanic -direction of arrow- and insert a suitable wooden wedge -A- (approx. 50 mm thick) between the assembly carrier -B- and the gearbox -C-.
- While doing so, remove the propshaft from the flange at the Haldex coupling (centering stud) on the rear final drive.



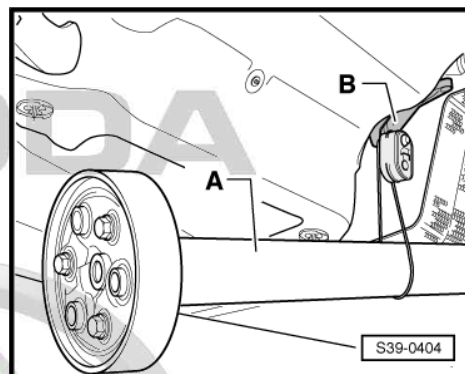
Note

Do not tilt propshaft when removing, pull off horizontally from centering stud of final drive towards the rear. The gasket ring/centering bushing -arrow- must not be damaged, otherwise the propshaft has to be replaced.

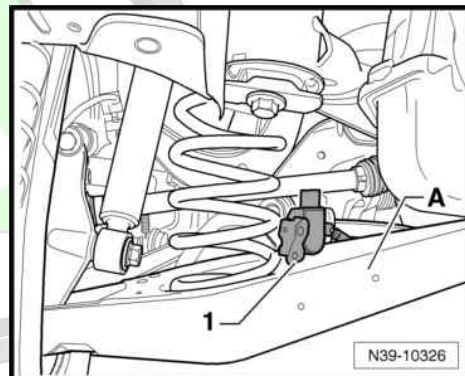


- Tie up the rear part of the propshaft -A- to the suspension -B- of the exhaust gas system.

So that the rear left vehicle level sensor -G76--1- is not damaged:



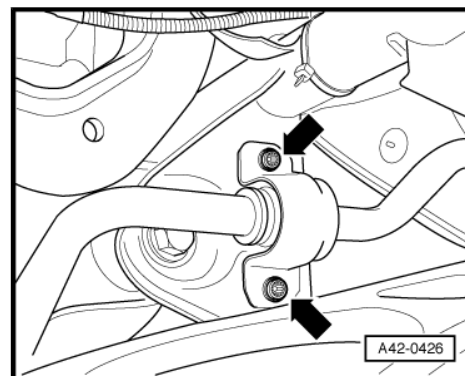
- Disconnect the plug connection, unscrew the sender and place down on the track control arm -A-.
- Unscrew both drive shafts at rear final drive.
- Remove anti-roll bar ⇒ Chassis; Rep. Gr. 42 .



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i Note

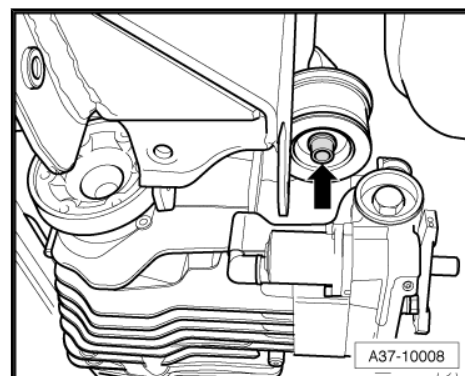
In order to unscrew and screw in the upper fixing screw -top arrow- for the anti-roll bar clamp, grip the relevant drive shaft in the flange shaft of the final drive and press upwards.



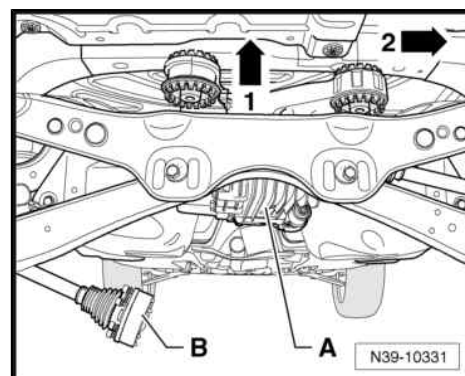
- Do not slacken the screw -arrow- at the front bracket more than 5 turns.

i Note

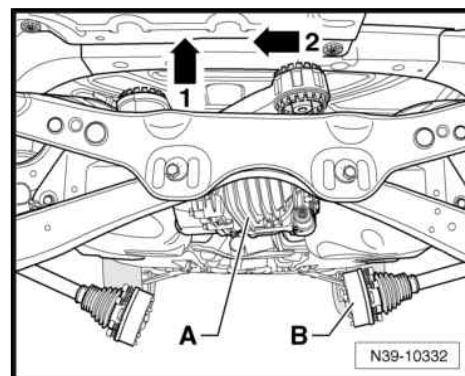
The final drive is now loose.



- Then raise the final drive -A- in the rear area -arrow 1- and slide as far as possible to the right -arrow 2-.
- Remove the left drive shaft -B- from the flange and carefully guide downwards.

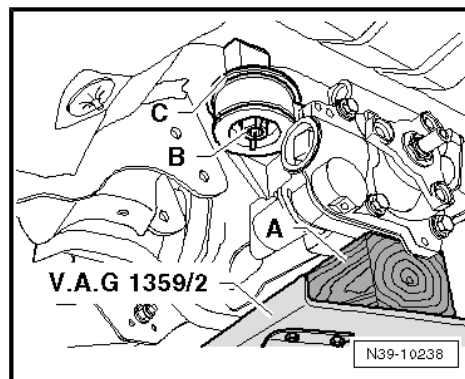


- Raise the final drive -A- in the rear area -arrow 1- and slide as far as possible to the left -arrow 2-.
- Remove the right drive shaft -B- from the flange and carefully guide downwards.
- Put final drive back into fitting position.

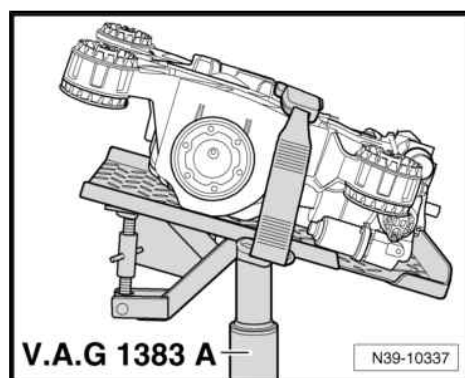


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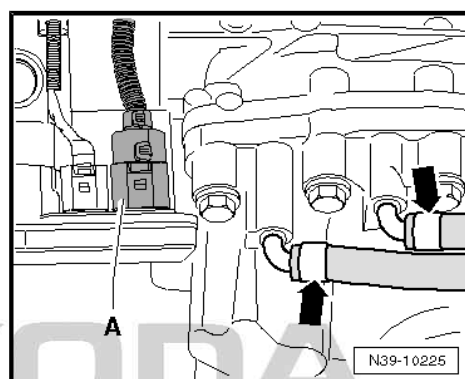
- Place a suitable wooden wedge -A- onto the universal support.
- Support the final drive with the engine/gearbox jack -V.A.G 1383 A-, secure it with the belt on the universal support against falling down.
- Release screw -B- at the front bracket.
- Remove the washers -C- from the top of the bracket.



- Place the final drive inclined in the vehicle as shown in the figure and at the same time slightly lower.



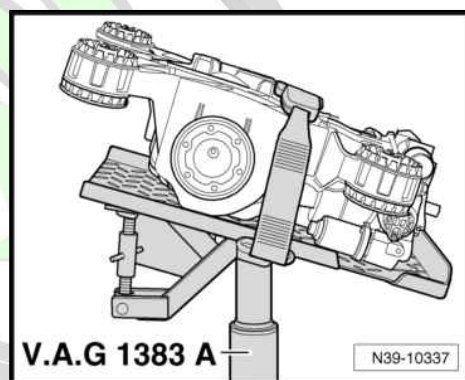
- Disconnect the plug connection -A- on the four-wheel drive control unit -J492-.
- Remove the ventilation line -arrows- from the final drive.
- For removing, lower the final drive further and pull it "towards the front", ensuring adequate "distance" from the adjoining components.



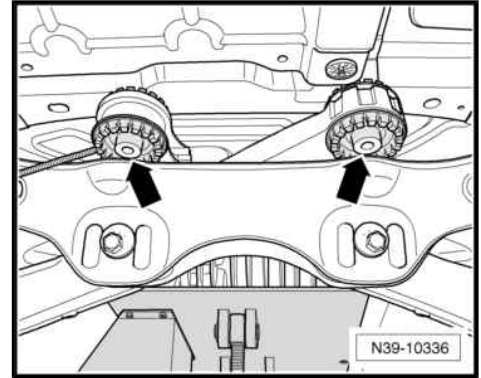
4.2.2 Install

Installation is performed in the reverse order, pay attention to the following points:

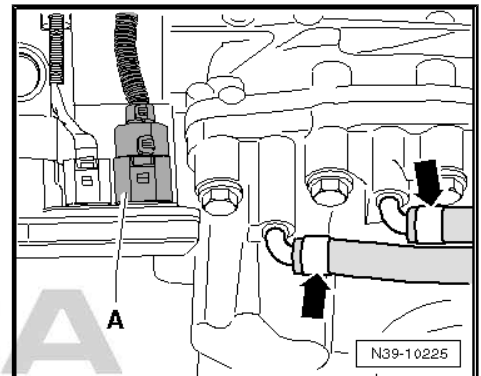
- Secure the final drive against falling down with the belt of the universal support.
- Bring the final drive into the indicated position.



- Raise the final drive and guide the rear bearings -arrows- via the assembly carrier, ensuring clearance to the other components.



- Mount the plug connection -A- on the four-wheel drive control unit -J492- .
- Push the ventilation lines -arrows- onto the ventilation pipes of the final drive.
- Raise the final drive up to the fitting position using the gearbox jack.

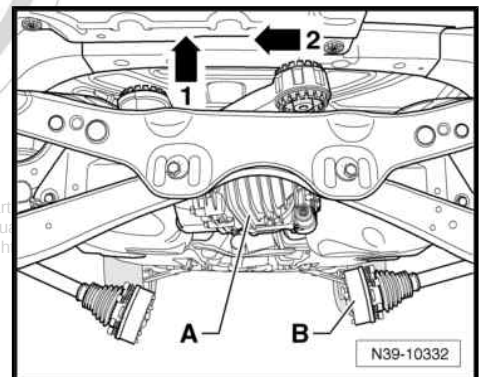
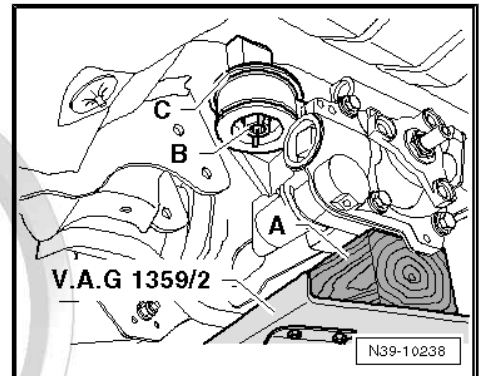


- Place washers -C- on the front bracket.
- Screw in the screw -B- by hand.

i Note

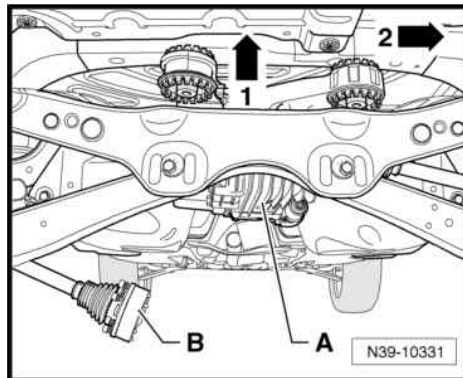
The final drive in the rear area must be movable in order to install the drive shafts.

- Remove the gearbox jack from underneath the vehicle.
- Raise the final drive -A- in the rear area -arrow 1- and slide as far as possible to the left -arrow 2-.
- Carefully guide the right drive shaft -B- upwards into the flange.



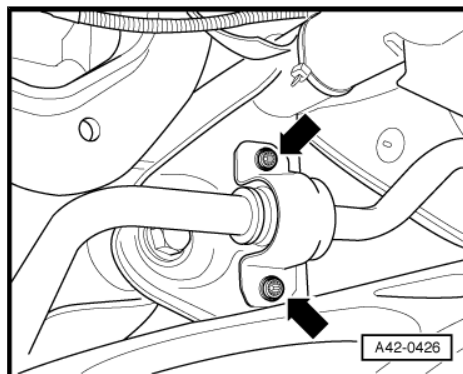
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- Then raise the final drive -A- in the rear area -arrow 1- and slide as far as possible to the right -arrow 2-.
- Carefully guide the left drive shaft -B- upwards into the flange.
- Install the anti-roll bar ⇒ Chassis; Rep. Gr. 42 .

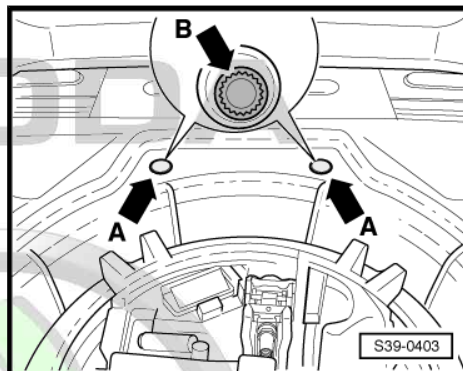


Note

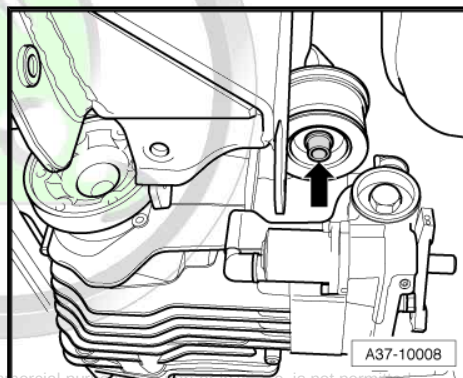
In order to unscrew and screw in the upper fixing screw -top arrow- for the anti-roll bar clamp, grip the relevant drive shaft in the flange shaft of the final drive and press upwards.



- Insert two "new" screws -arrow B- through the holes in the luggage compartment floor and tighten. Tightening torque ⇒ Chassis; Rep. Gr. 42 .
- Clip the two rubber plugs -arrows A- into the luggage compartment floor.

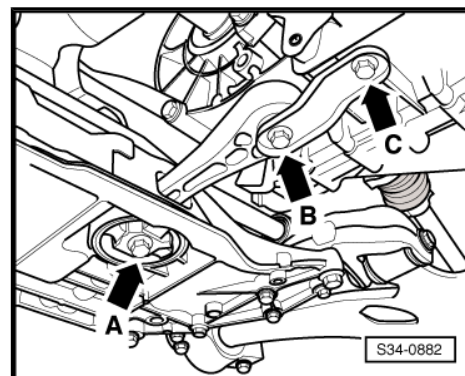


- Tighten the final drive from "below" -arrow-. Tightening torque ⇒ Chassis; Rep. Gr. 42 .
- Install propshaft on final drive and tighten. Tightening torque ⇒ [page 145](#) .
- Tighten the drive shafts. Tightening torque ⇒ Chassis; Rep. Gr. 42 .



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- Tighten the pendulum support with “new” screws -arrows B and C- at the gearbox. Tightening torques ⇒ Engine; Rep. Gr. 10 .



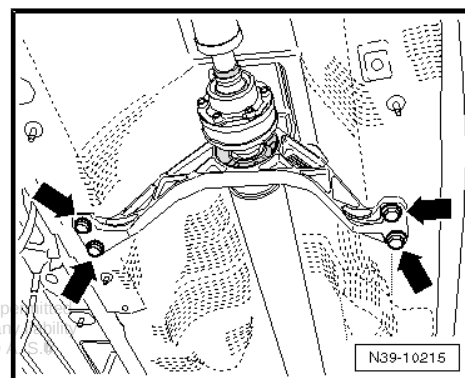
- Align intermediate bearing free of stress and tighten. Tightening torque ⇒ [page 149](#) .
- Install the heat shield below the propshaft.
- Install rear left vehicle level sensor -G76- ⇒ Chassis; Rep. Gr. 42 .

Carry out the basic setting of the headlight ⇒ Vehicle diagnosis, testing and information system VAS 5051.

- Install exhaust system ⇒ Engine; Rep. Gr. 26 .

If the final drive was replaced:

- Check the oil level in the Haldex coupling, top up with oil if necessary ⇒ [page 186](#) .
- Check the oil level in the rear final drive, top up with oil if necessary ⇒ [page 190](#) .



4.3 Replace rubber-metal bearing at the rear final drive

Special tools and workshop equipment required

- ◆ Drift pin -MP3-426 (30 - 505)-
- ◆ Thrust piece -MP3-417 (VW 554) -
- ◆ Assembly device -MP5-400 (3416)-
- ◆ Assembly device -MP5-401 (3346)-
- ◆ Assembly device -MP5-402 (3301)-
- ◆ Interior extractor -Kukko 21/1 -
- ◆ Countersupport -Kukko 22/1-

1 - Stop washer

- ☐ remove before removing the rubber-metal bearing Pos. 2
- ☐ install onto the rubber-metal bearings Pos. 2
⇒ [page 162](#)

2 - Rubber-metal bearing "rear top"

- ☐ removing ⇒ [page 160](#)
- ☐ Difference between the rubber-metal bearings "rear top" and "front bottom" ⇒ [page 162](#)
- ☐ Fitting position ⇒ [page 162](#)
- ☐ installing ⇒ [page 161](#)

3 - Rubber-metal bearing "rear bottom"

- ☐ removing ⇒ [page 161](#)
- ☐ installing ⇒ [page 161](#)

4 - Stop washer

- ☐ remove before removing the rubber-metal bearing Pos. 5
- ☐ install onto the rubber-metal bearing Pos. 5
⇒ [page 162](#)

5 - Rubber-metal bearing "front bottom"

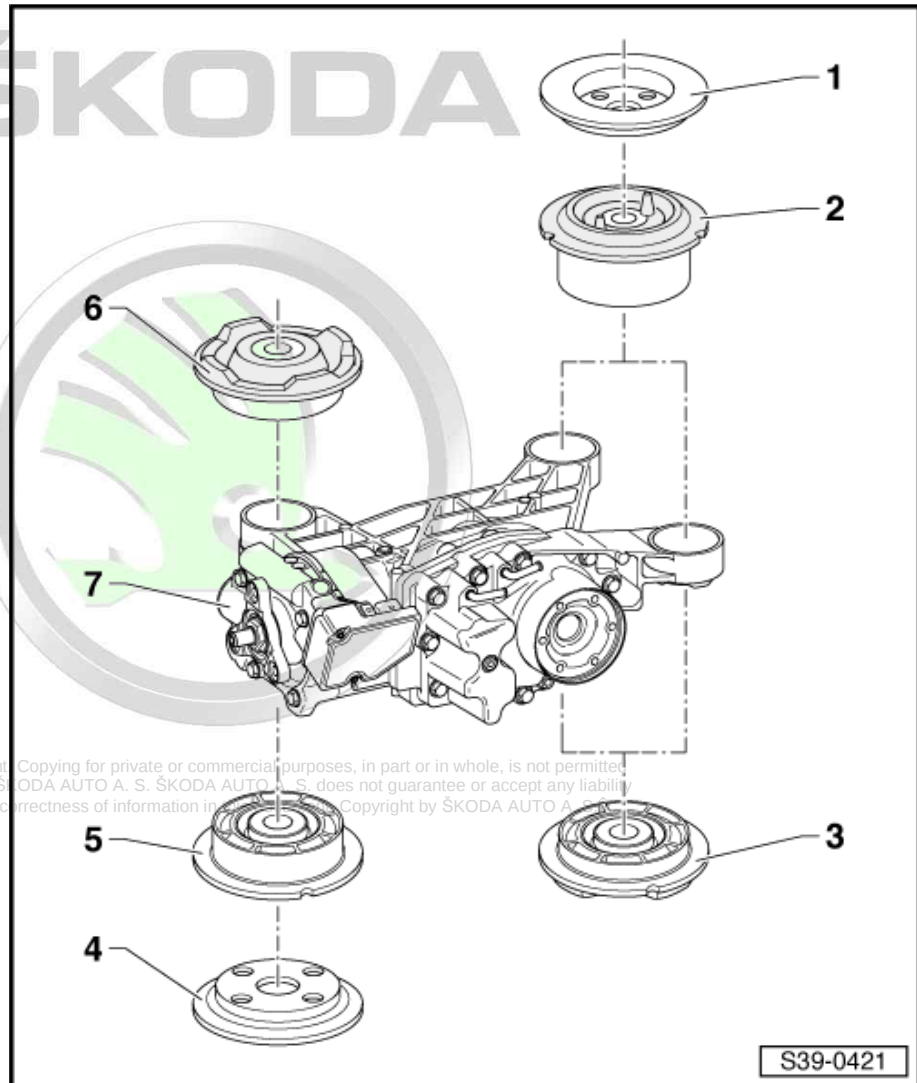
- ☐ removing ⇒ [page 161](#)
- ☐ Difference between the rubber-metal bearings "rear top" and "front bottom" ⇒ [page 162](#)
- ☐ Fitting position ⇒ [page 162](#)
- ☐ installing ⇒ [page 162](#)

6 - Rubber-metal bearing "front top"

- ☐ removing ⇒ [page 161](#)
- ☐ installing ⇒ [page 162](#)

7 - Rear final drive

- ☐ removing and installing ⇒ [page 152](#)

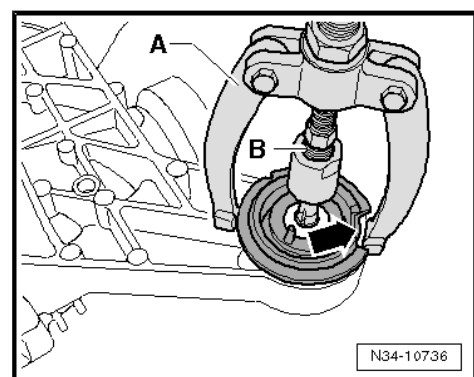


Pull out rubber-metal bearing "rear top"

A - Countersupport , e.g. -Kukko 22/1-

B - Interior extractor 12 ...16 mm , e.g. -Kukko 21/1-

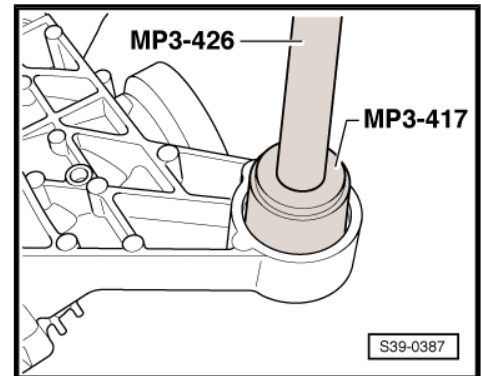
- A piece must be broken off from the collar of the rubber-metal bearing in order to be able to position the countersupport -arrow-.
- Insert the interior extractor into the joint of the upper and lower rubber-metal bearing and put it under tension.



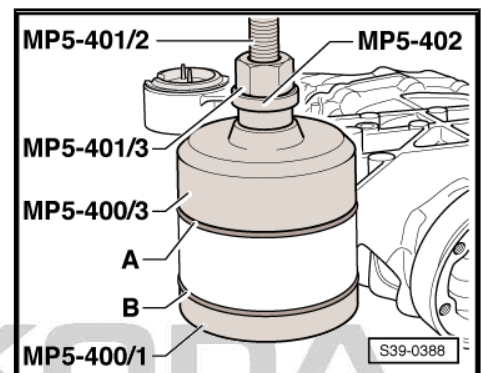
Drive out rubber-metal bearing "rear bottom"



If the rubber-metal bearing should be replaced separately, it can also be pulled out with the countersupport, e.g. -Kukko 22/1- and the interior extractor 12... 16 mm, e.g. -Kukko 21/1- ➔ [page 160](#).



Insert rubber-metal bearing "rear top" -A- and "rear bottom" -B-



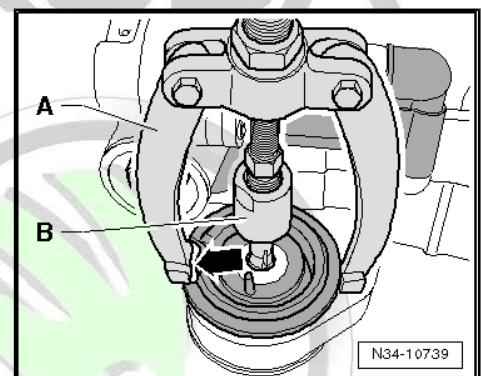
Pull out the rubber-metal bearing "front bottom"

- Both ventilation pipes must be closed so that in the following work step no oil escapes from the final drive.
- Then place the final drive with the upper part downwards onto the work bench and pull out the rubber-metal bearing:

A - Countersupport, e.g. -Kukko 22/1-

B - Interior extractor 12 ... 16 mm, e.g. -Kukko 21/1-

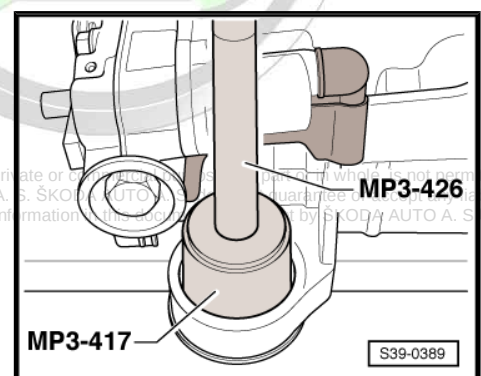
- A piece must be broken off from the collar of the rubber-metal bearing in order to be able to position the countersupport -arrow-.
- Insert the interior extractor into the joint of the upper and lower rubber-metal bearing and put it under tension.



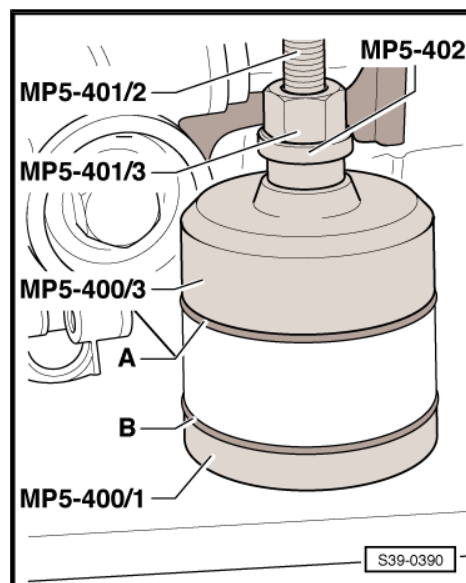
Drive out rubber-metal bearing "front top"



If the rubber-metal bearing should be replaced separately, it can also be pulled out with the countersupport, e.g. -Kukko 22/1- and the interior extractor 12... 16 mm, e.g. -Kukko 21/1- ➔ [page 161](#).



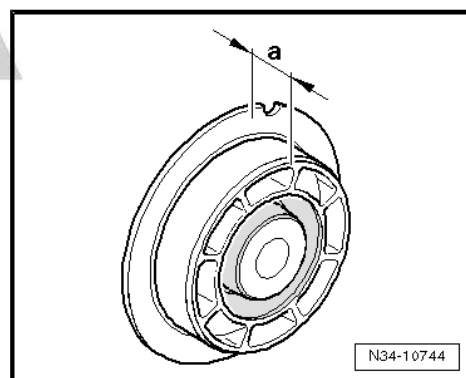
Insert rubber-metal bearing "front bottom" -A- and "front top" -B-



Difference between the rubber-metal bearings "rear top" and "front bottom"

The rubber-metal bearings "rear top" and "front bottom" differ in height

Dimension "a" mm	Rubber-metal bearing
22	"rear top"
17	"front bottom"



Fitting position of the rubber-metal bearings "rear top" and "front bottom". Fitting position of the stop washer -B-

- Final drive in fitting position

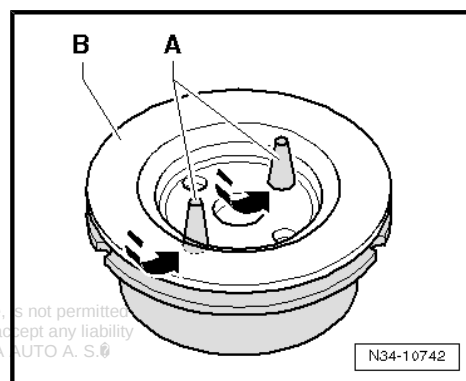
Fitting position of the rubber-metal bearings "rear top" and "front bottom":

- ◆ The rubber-metal bearings "rear top" ⇒ [Item 2 \(page 160\)](#) point with the stud -A- to the top
- ◆ The rubber-metal bearing "front bottom" ⇒ [Item 5 \(page 160\)](#) points with the stud -A- to the bottom

Fitting position of the stop washer -B-

- Insert the pegs -A- in the holes of the stop washer -arrows-.

The stop washer -B- is then connected captively with the rubber-metal bearing.



5 Replace gasket rings for flange shaft at rear final drive (rear final drive installed)

Special tools and workshop equipment required

- ◆ Ejection lever -MP3-418 (VW 681)-
- ◆ Extractor -T10037-
- ◆ Thrust piece -T10049-
- ◆ Catch pan
- ◆ Sealing grease -G 052 128 A1-

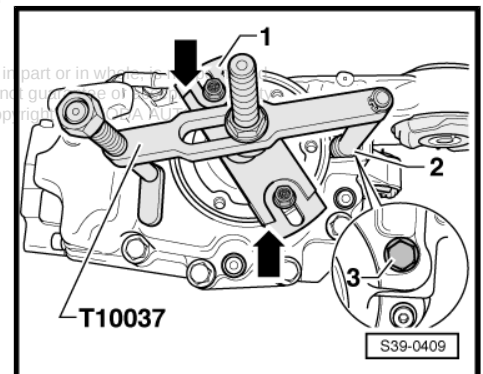
5.1 Removing the flange shaft gasket ring

The removal of the gasket ring is identical on both left and right.

- Removing drive shaft ⇒ Running Gear; Rep. Gr. 42 .
- Place a catch pan under the rear final drive.

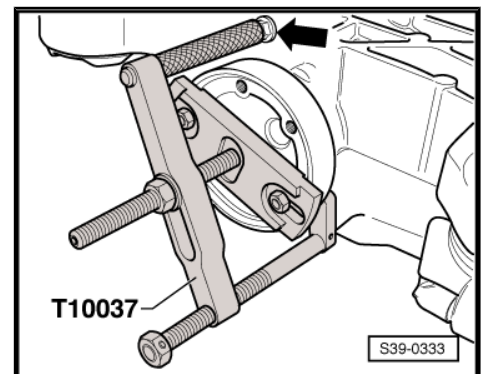
Remove the left flange shaft

- Screw the plate -1- of the extractor -T10037- with two screws M8 (30 mm long) onto the flange shaft.
- The shoulders -arrows- for larger flange diameters point to the outside.
- Position the nut of the knurled screw -2- from the extractor -T10037- onto the hexagon screw -3-.
- Pull out the flange shaft with extractor -T10037- .



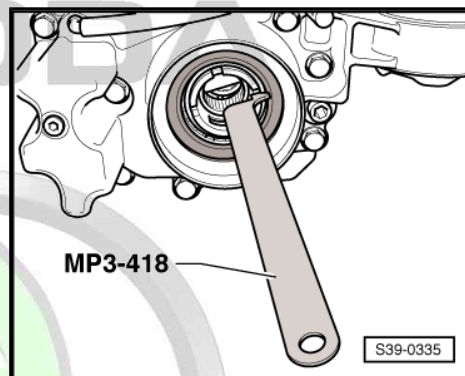
Removing the right flange shaft

- Screw the plate of the extractor -T10037- with two screws M8 (30 mm long) onto the flange shaft.
- The shoulders for larger flange diameters point to the outside.
- Fit the nut of the knurled screw -arrow- of the extractor -T10037- in such a way that the start of the thread is aligned with the housing.
- Pull out the flange shaft with extractor -T10037- .



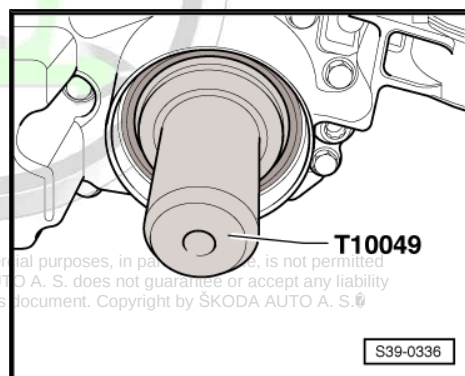
Proceed as follows for both sides

- Pull out gasket ring for flange shaft with ejection lever - MP3-418- .



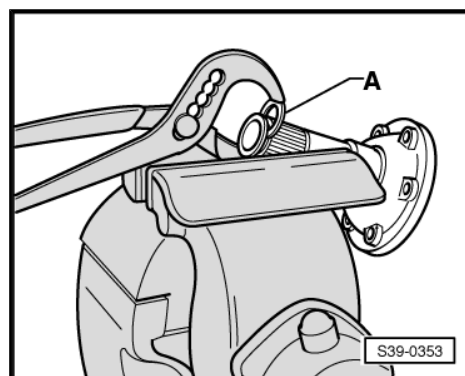
5.2 Install gasket ring for flange shaft

- Lightly oil new gasket ring at outside diameter and drive in with pressure plate -T10049- up to the stop, do not twist the gasket ring.
- Fill half the space between the sealing lip and dust lip with sealing grease -G 052 128 A1- .



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- Clamp the flange shaft in a vice with protective jaws.
- Push out the old circlip from the flange shaft groove with the new circlip -A-.
- Drive in the flange shaft with a rubber hammer.
- Install drive shaft ⇒ Chassis; Rep. Gr. 42 .
- Checking the oil level in the rear final drive ⇒ [page 190](#) .



6 Replace gasket ring for flange on the Haldex coupling on installed rear final drive

Special tools and workshop equipment required

- ◆ Ejection lever -MP3-418 (VW 681)-
- ◆ Thrust piece -T10019-
- ◆ Extractor -T10037-
- ◆ Tensioning strap -T10038-
- ◆ Counterholder -T30004 (3415)-
- ◆ Engine/gearbox jack , e.g. -V.A.G 1383A-
- ◆ Extractor , e.g. -Kukko 12/1-
- ◆ Catch pan
- ◆ Locking agent -D 000 600-
- ◆ Bolt M10 x 25
- ◆ Allan screw M8 x 15



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6.1 Remove gasket ring for flange on the Haldex coupling

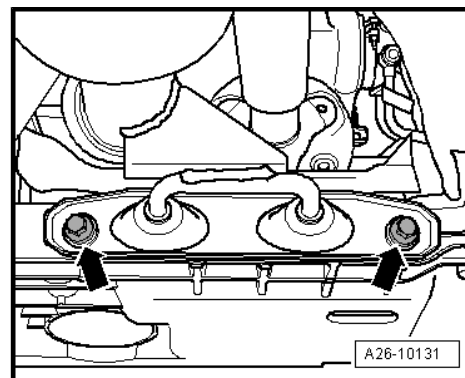
- Raise vehicle.
- Separate exhaust system at the double clamp and remove bracket for the exhaust system from the assembly carrier ⇒ Engine; Rep. Gr. 26 .
- Tie up pre-exhaust pipe.



Note

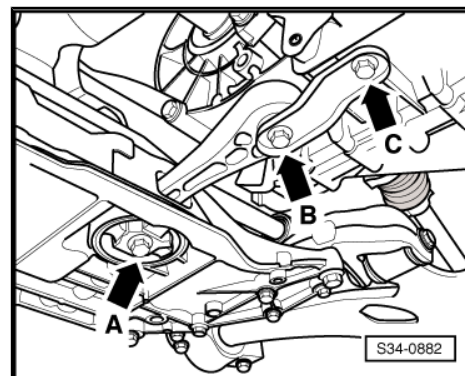
The decoupling elements in the exhaust pipe should not be bent by more than 10° - risk of damage.

- Remove the rear part of the exhaust system from the double clamp ⇒ Engine; Rep. Gr. 26 .
- Remove the heat shield below the propshaft.
- Remove pendulum support from gearbox, to do so release the bolts -arrow B- and -arrow C-.



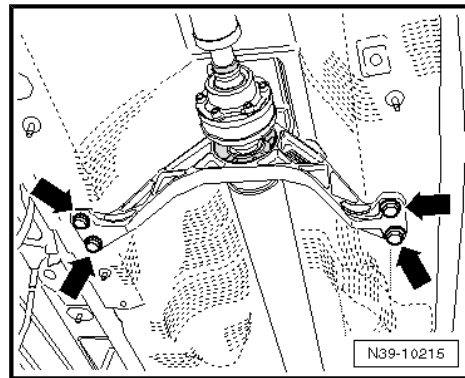
Note

Do not release screw -arrow A-.

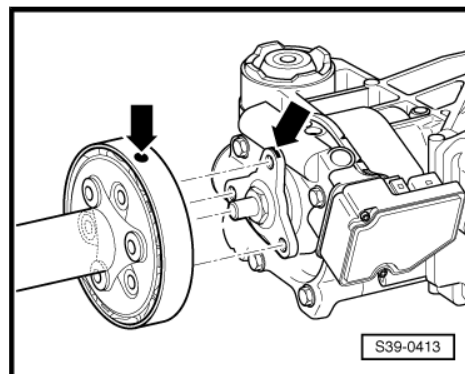




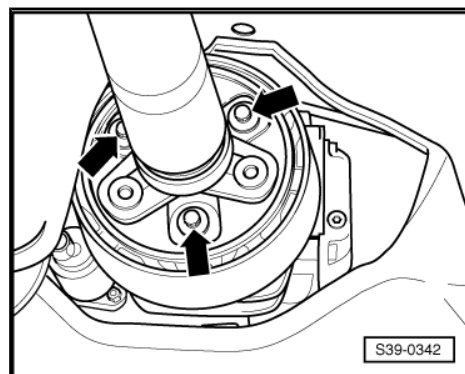
- Slacken intermediate bearing of propshaft from the structure by approx. 4 turns -arrows-.



- Check, if a marking (colour point) is present on the flexible disk/oscillation damper and at the flange on the Haldex coupling -arrows-. If not, mark the position of the flexible disk and the flange on the Haldex coupling to each other -arrows-.

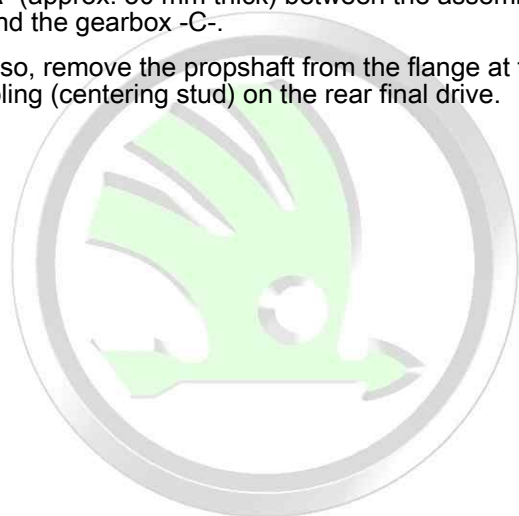
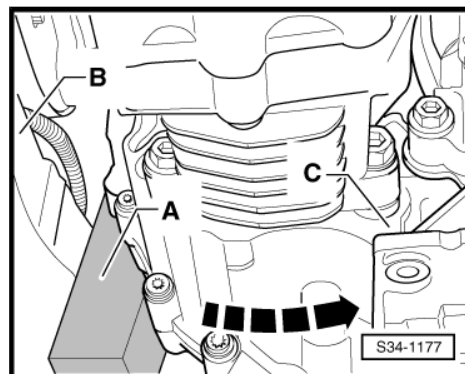


- Unscrew propshaft with flexible disk and oscillation damper from rear final drive -arrows-.



- Subsequently push the engine/gearbox unit to the front with a 2nd mechanic -direction of arrow- and insert a suitable wooden wedge -A- (approx. 50 mm thick) between the assembly carrier -B- and the gearbox -C-.

- While doing so, remove the propshaft from the flange at the Haldex coupling (centering stud) on the rear final drive.



i Note

Do not tilt propshaft when removing, pull off horizontally from centering stud of final drive towards the rear. The gasket ring/centering bushing -arrow- must not be damaged, otherwise the propshaft has to be replaced.

- Tie up the rear part of the propshaft -A- to the suspension -B- of the exhaust gas system.
- Lash the vehicle to the lift platform using the tensioning straps -T10038- .

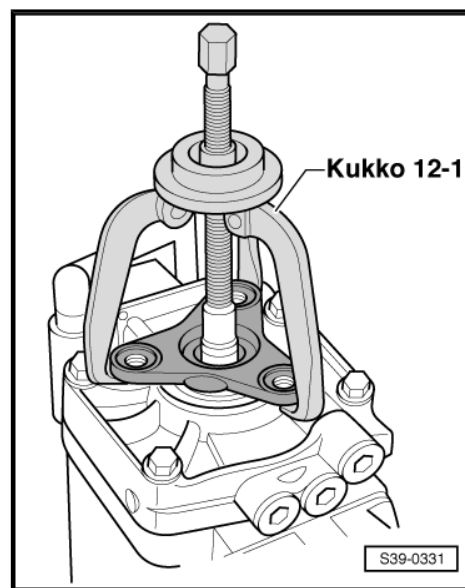
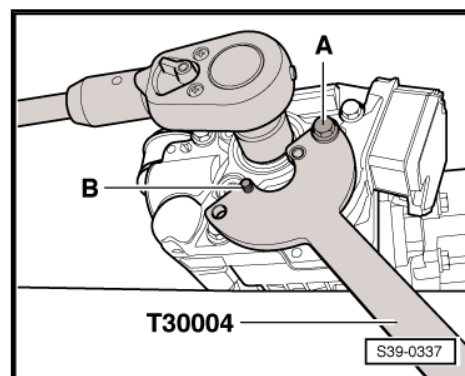
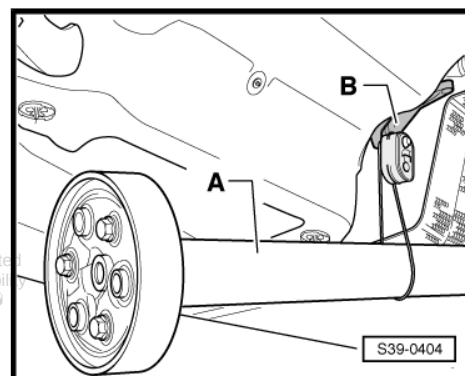
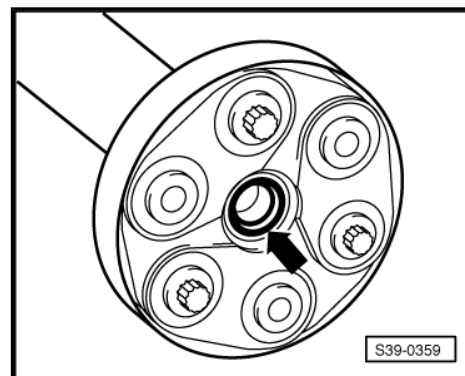


WARNING

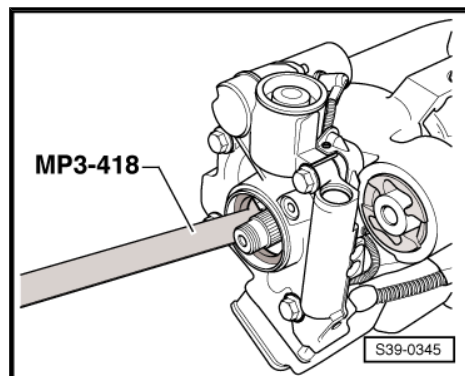
If the vehicle is not lashed, there is a risk of the vehicle toppling off the lift platform.

- Unscrew hexagon nut at flange of Haldex coupling.
- A- Screw M10 x 25
- B- Allen screw M8 x 15 (is screwed in from the reverse side into the counterholder -T30004 -)

- Disconnect flange for Haldex coupling. If there is any resistance, use three armed extractor , e.g. -Kukko 12/1- .

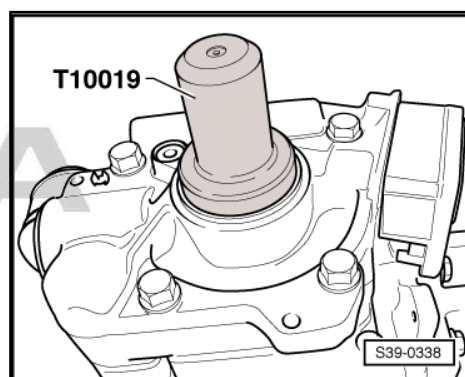


- Pull out gasket ring with ejection lever -MP3-418- .

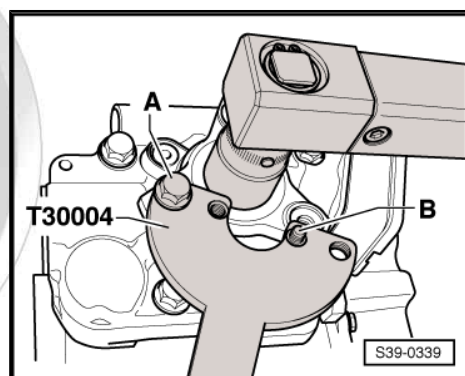


6.2 Install gasket ring for flange on the Haldex coupling

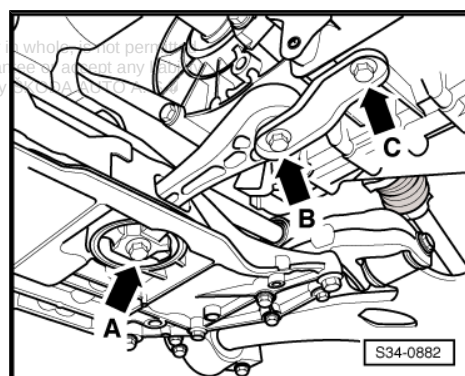
- Before installing, slightly oil new gasket ring on the outside diameter and between the sealing lips with high efficiency oil for Haldex coupling .
- Drive in new gasket ring with pressure plate -T10019- up to the stop. Do not tilt the gasket ring during this process.
- Drive in flange for Haldex coupling.



- Insert new hexagon nut with locking agent -D 000 600 - and tighten.
- A- Screw M10 x 25
- B- Allen screw M8 x 15 (is screwed in from the reverse side into the counterholder -T30004-)
- Install propshaft at final drive and tighten ⇒ [page 145](#) .

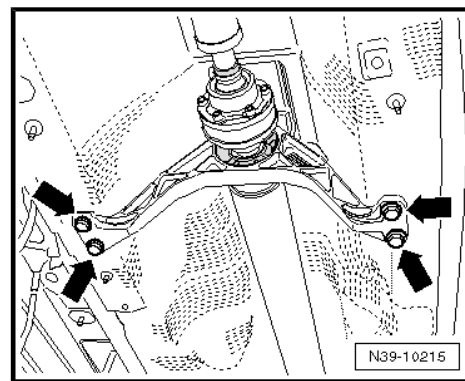


- Tighten the pendulum support with “new” screws -arrows B and C- at the gearbox. Tightening torques ⇒ Engine: Rep. Gr. 10 .





- Align intermediate bearing free of stress and tighten. Tightening torque ⇒ [page 149](#) .
- Install the heat shield below the propshaft.
- Install exhaust system and align free of stress ⇒ Engine; Rep. Gr. 26 .
- Check oil level in the Haldex coupling ⇒ [page 186](#)



Tightening torque

Component	Nm
Haldex coupling to rear final drive ¹⁾	210

¹⁾ Always replace nut ⇒ Electronic Catalogue of Original Parts

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7 Electrical/electronic components and fitting locations for the Haldex coupling

1 - Four-wheel drive control unit -J492 -

- ❑ Fitting location
⇒ [page 170](#)
- ❑ forms a single unit with the control valve for opening degree of coupling -N373- Pos. 2
- ❑ important signals from the engine control unit and the ABS control unit with EDL -J104- are transmitted via the data-bus to the four-wheel drive control unit
- ❑ removing and installing
⇒ [page 173](#)

2 - valve for control of the opening degree of the coupling -N373-

3 - Pump for Haldex coupling - V181-

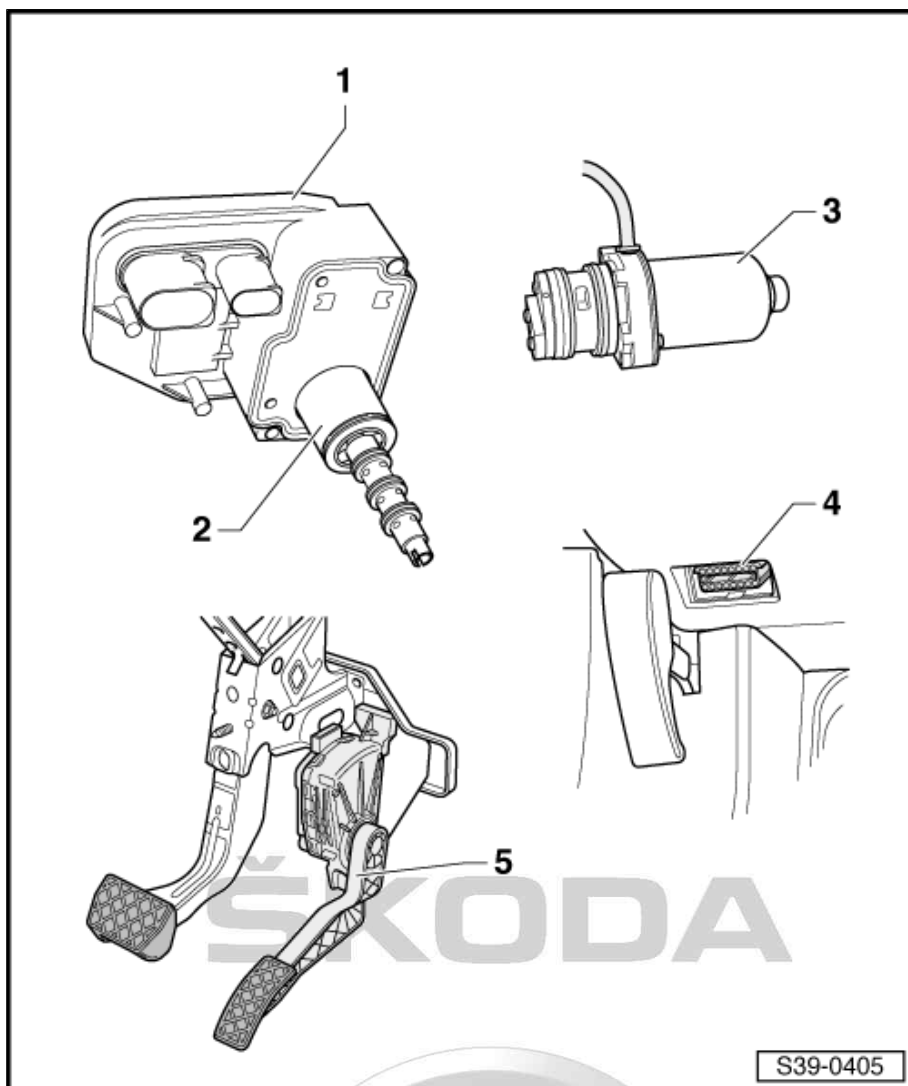
- ❑ Fitting location
⇒ [page 171](#)
- ❑ the pump can be inspected with ⇒ Vehicle diagnosis, testing and information system VAS 5051 in the operating mode "Targeted fault finding"
- ❑ removing and installing
⇒ [page 175](#)

4 - Diagnostic connection

- ❑ is located in the driver's footwell, next to the front flap control lever

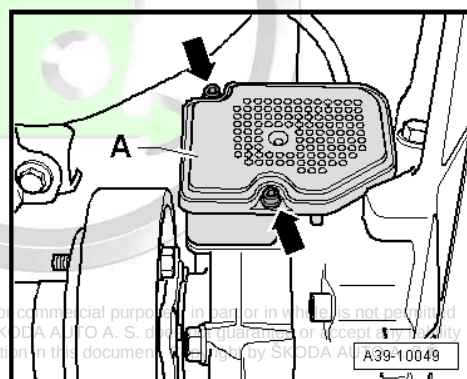
5 - Accelerator pedal position sender -G79-

- ❑ Fitting location ⇒ [page 171](#)



Four-wheel drive control unit -J492-

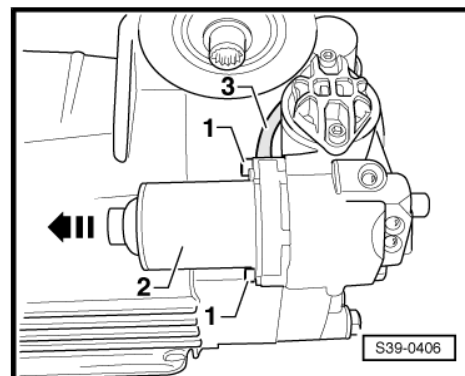
Fitting location: Control unit -A- is located on the rear final drive, in front (left) area.



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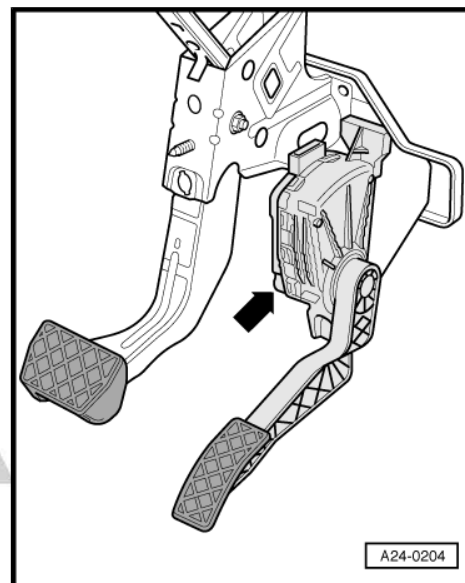
Pump for Haldex coupling -V181-

Fitting location: Pump for Haldex coupling -2- is located on the rear final drive, in front (right) area.



Accelerator pedal position sender -G79-

Fitting location: the accelerator pedal position sender -G79- -arrow- is located in the foot controls.



ŠKODA

7.1 Summary of components - four-wheel drive control unit -J492-



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1 - Four-wheel drive control unit -J492-

- ☐ is calibrated with the valve for control of the opening degree of the coupling -N373- pos. 4
- ☐ always replace together with the valve for control of the opening degree of the coupling -N373- Pos. 4
- ☐ removing and installing
⇒ [page 173](#)

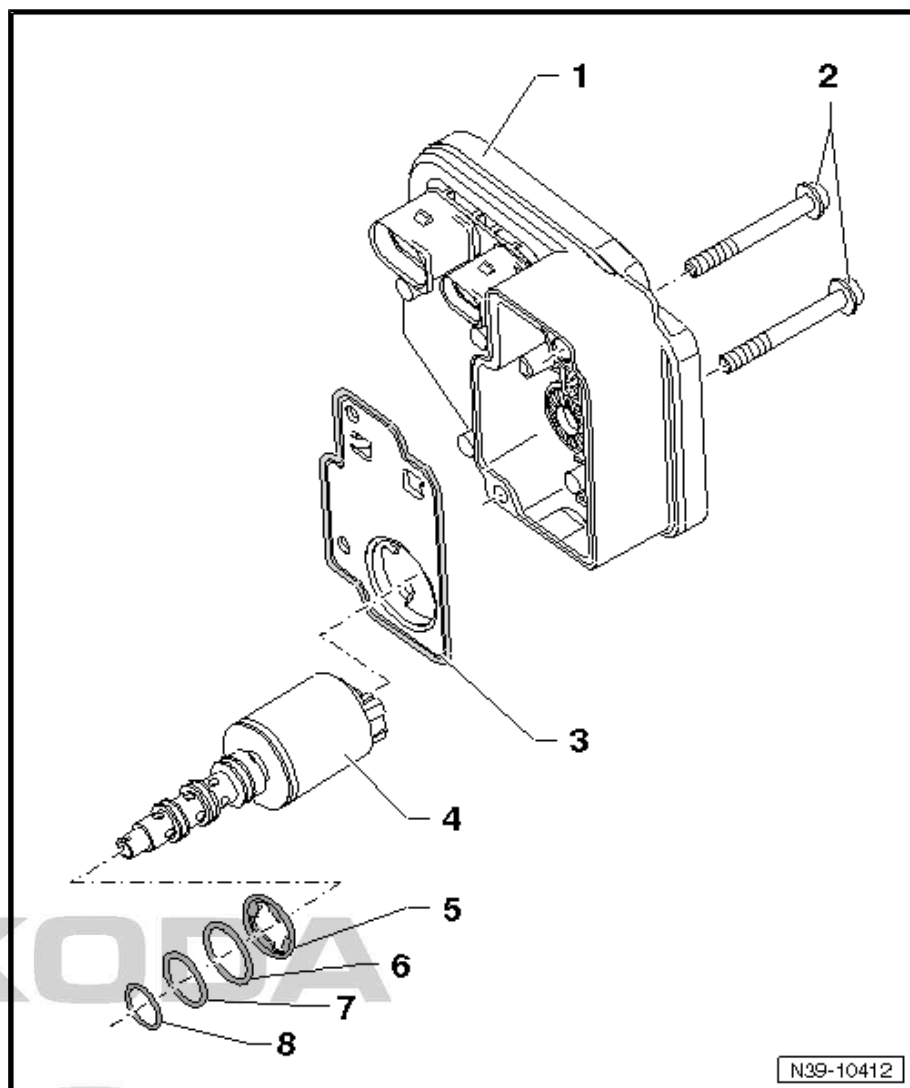
2 - 6 Nm

3 - Cover

- ☐ with vulcanized gasket
- ☐ remains glued on the control unit or on the housing of the Haldex coupling during removal
- ☐ always replace ⇒ Electronic Catalogue of Original Parts

4 - valve for control of the opening degree of the coupling -N373-

- ☐ is calibrated with the four-wheel drive control unit -J492-
- ☐ always replace together with the four-wheel drive control unit -J492- Pos. 1
- ☐ removing and installing
⇒ [page 173](#)



5 - Sealing ring

- ☐ pay attention to correct fit of the centering lips in the groove
- ☐ for valve for control of the opening degree of the coupling -N373-
- ☐ moisten with high efficiency oil for Haldex coupling and insert
- ☐ always replace ⇒ Electronic Catalogue of Original Parts

6 - Sealing ring

- ☐ Inner diameter 12 mm
- ☐ for valve for control of the opening degree of the coupling -N373-
- ☐ moisten with high efficiency oil for Haldex coupling and insert
- ☐ always replace ⇒ Electronic Catalogue of Original Parts

7 - Sealing ring

- ☐ Inner diameter 11 mm
- ☐ for valve for control of the opening degree of the coupling -N373-
- ☐ moisten with high efficiency oil for Haldex coupling and insert
- ☐ always replace ⇒ Electronic Catalogue of Original Parts

8 - Sealing ring

- ☐ Inner diameter 10 mm
- ☐ for valve for control of the opening degree of the coupling -N373-
- ☐ moisten with high efficiency oil for Haldex coupling and insert

❑ always replace ⇒ Electronic Catalogue of Original Parts

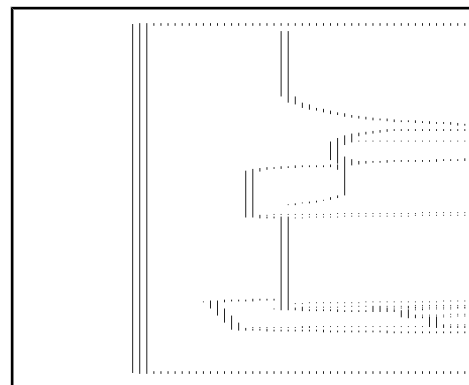
7.2 Removing and installing the four-wheel drive control unit -J492-

Special tools and workshop equipment required

◆ Catch pan

7.2.1 Removing

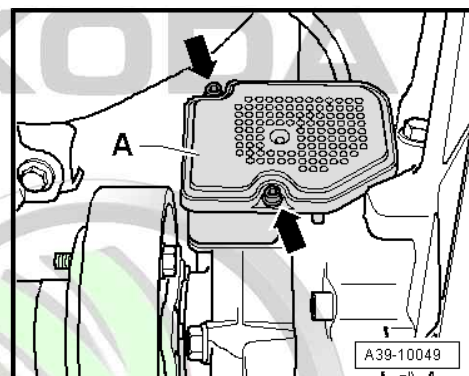
- Switch off ignition.
- Separate plug connections -1- and -2- at the top of the control unit.
- Place catch pan under the final drive.



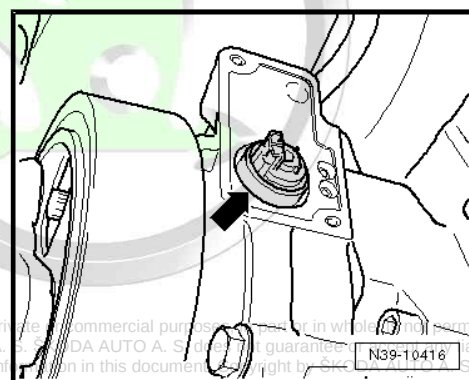
- Release screws -arrows-.

Ensure that no parts fall down when removing the control unit.

- Carefully remove the control unit -A-.

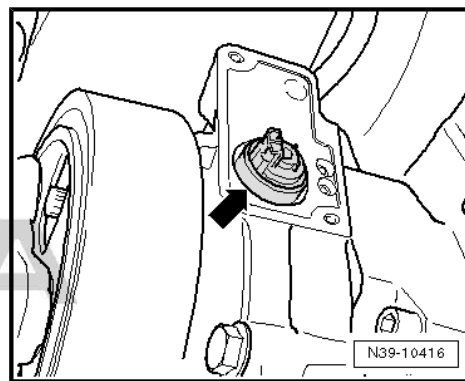


- If necessary remove the cover ⇒ [Item 3 \(page 172\)](#) from the housing of the Haldex coupling, while doing so hold the valve -arrow-.



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- Cover the control valve for opening degree of coupling -N373- -arrow- with a cloth. Carefully grip the valve body -arrow- with pliers and pull out the valve.



7.2.2 Install

Installation is performed in the reverse order, pay attention to the following points:

- Replace gasket rings -1...4- → Electronic Catalogue of Original Parts .



Note

The valve gasket rings have different inner diameters.

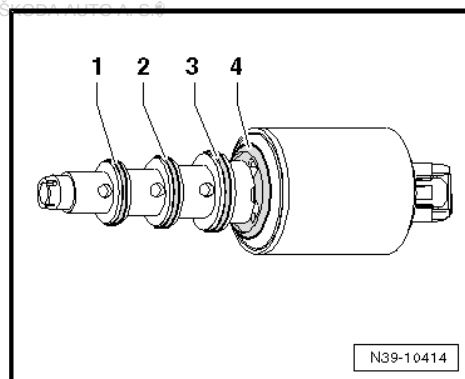
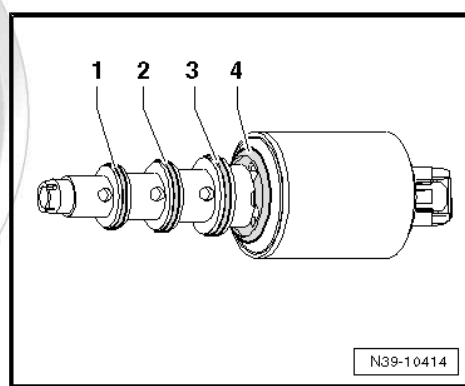
- ◆ Inside diameter of gasket ring -1- is 10 mm
 - ◆ Inside diameter of gasket ring -2- is 11 mm
 - ◆ Inside diameter of gasket ring -3- is 12 mm
 - ◆ Gasket ring at valve body -4-
- First moisten the gasket ring -1- with high efficiency oil for Haldex coupling and fit onto the control valve for opening degree of coupling -N373- .

Then mount the gasket rings -2...4-.



Note

Press the centering lips (4 pieces) of the gasket ring -4- into the groove on the valve.



- Fit new cover -2- onto the control unit -1-.

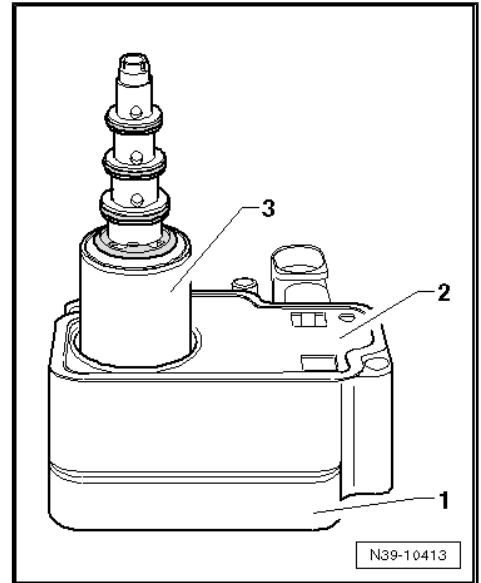
Note

The cover only fits in one position.

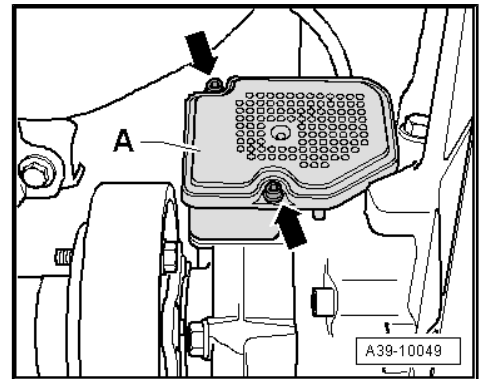
- Insert the control valve for opening degree of coupling -N373- into the control unit -1-.

Note

The valve only fits in one position.



- Carefully fit on control unit -A- and tighten screws -arrows- to tightening torque.
- Check oil level in the Haldex coupling ⇒ [page 186](#)



Tightening torque

Component	Nm
Four-wheel drive control unit -J492-	⇒ Item 2 (page 172)

7.3 Removing and installing pump for Haldex coupling -V181-

Special tools and workshop equipment required

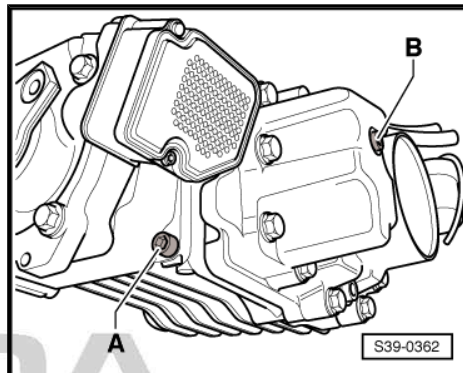
◆ Catch pan

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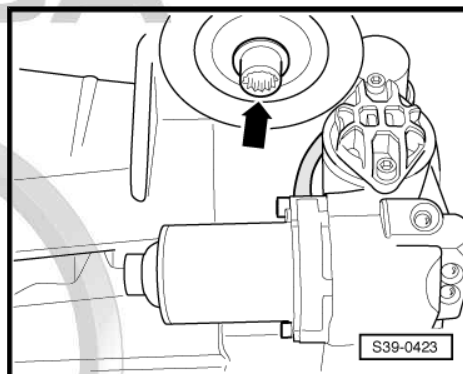
7.3.1 Removing

- Switch off ignition.
- Place catch pan under the final drive.

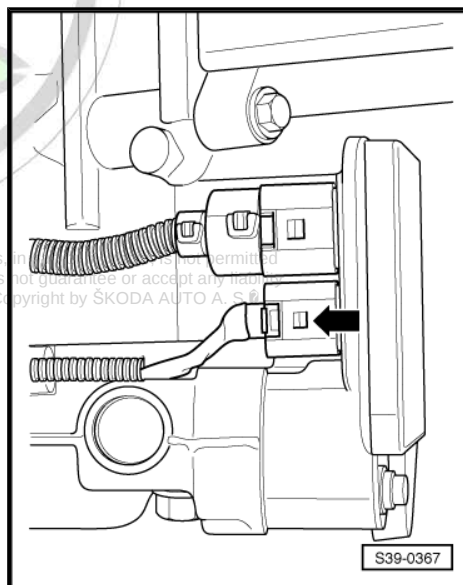
- Release oil check screw -B-.
- Unscrew oil drain plug -A- and completely drain high efficiency oil for Haldex coupling .
- Screw in new oil drain plug -A- and tighten to the prescribed tightening torque.



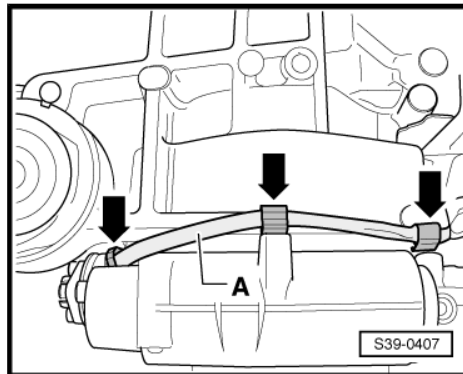
- Slightly lower the final drive, to do so the fixing screw -arrow- must be released by approx. 5 turns at the front bracket of the final drive.



- Disconnect plug -arrow- for the pump from the control unit.

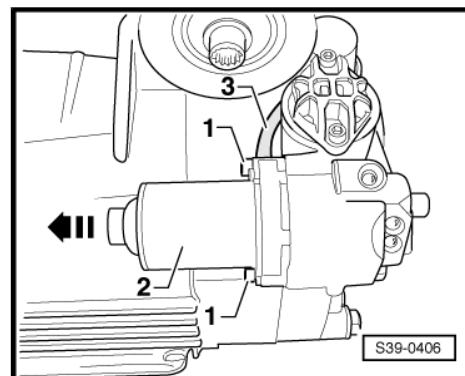


- Unclip the wiring loom -A- from the holders -arrows- and expose.



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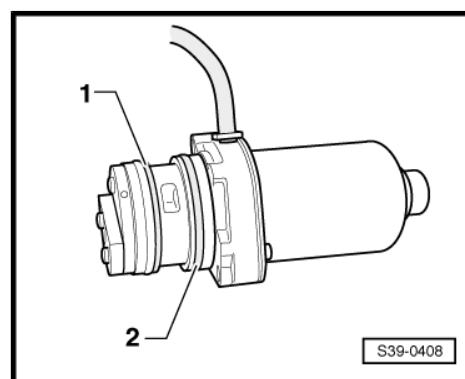
- Screw out the fixing screws -1- of the pump for Haldex coupling -V181- -2-.
- Pull the pump for Haldex coupling -V181- out of the housing for the Haldex coupling in -direction of arrow-, to do so guide through the wiring loom -3-.



7.3.2 Install

Installation is performed in the reverse order, pay attention to the following points:

- Replace O-ring -1- and -2- ⇒ Electronic Catalogue of Original Parts .
- Coat O-rings -1- and -2- thinly with high efficiency oil for Haldex couplings .
- Fill up with high efficiency oil for Haldex couplings and check oil level in the Haldex coupling ⇒ [page 186](#) .



Tightening torques

Component	Nm
Pump to Haldex coupling	6
Oil check screw ²⁾	15
Oil drain plug ²⁾	30
Rear final drive to assembly carrier ¹⁾	⇒ Chassis; Rep. Gr. 42

¹⁾ Always replace screws ⇒ Electronic Catalogue of Original Parts .

²⁾ Replace screw with sealing ring ⇒ Electronic Catalogue of Original Parts

8 Removing and installing Haldex coupling

8.1 Summary of components

1 - 50 Nm

- 4 pieces

2 - Haldex coupling

- with control unit

3 - O-ring

removing and installing

⇒ [page 178](#)

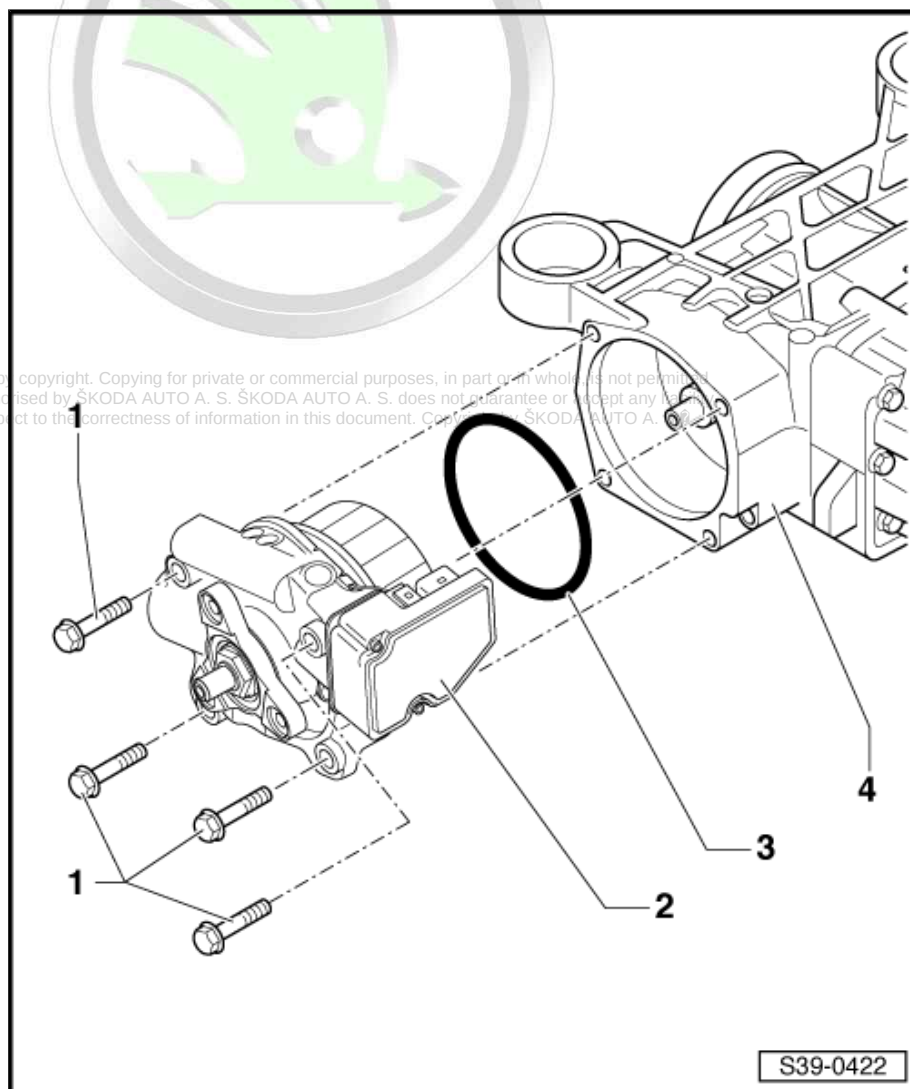
- always replace ⇒ Electronic Catalogue of Original Parts

- insert with high efficiency oil for Haldex couplings

- Oil specification ⇒ Electronic Catalogue of Original Parts

4 - Rear final drive

- removing and installing
⇒ [page 151](#)



8.2 Removing and installing Haldex coupling (final drive installed)

Special tools and workshop equipment required

- ◆ Guide bars -T10093-
- ◆ Engine/gearbox jack , e.g. -V.A.G 1383A-
- ◆ Catch pan

8.2.1 Removing

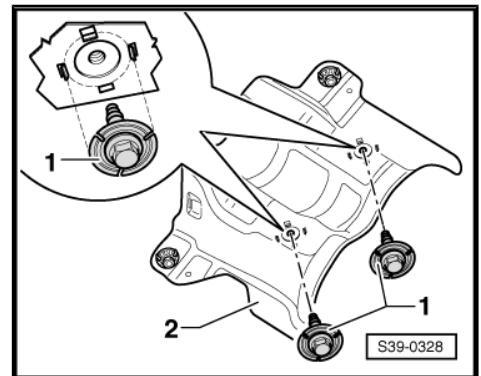
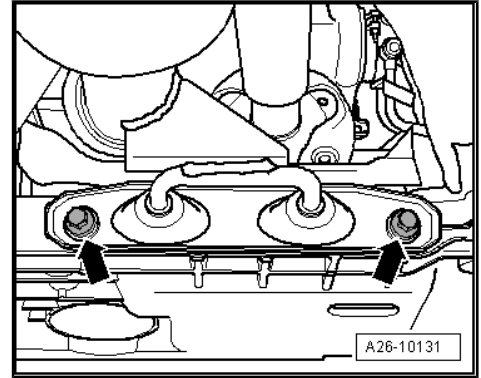
- Raise vehicle.

- Separate exhaust system at the double clamp and remove bracket for the exhaust system from the assembly carrier ➔ Engine; Rep. Gr. 26 .
- Tie up pre-exhaust pipe.

i Note

The decoupling elements in the exhaust pipe should not be bent by more than 10° - risk of damage.

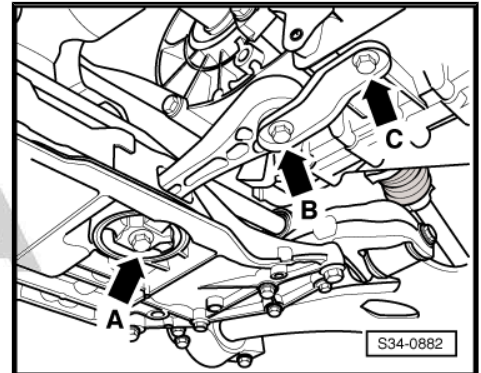
- Remove the rear part of the exhaust system from the double clamp ➔ Engine; Rep. Gr. 26 .
- Remove the heat shield below the propshaft.



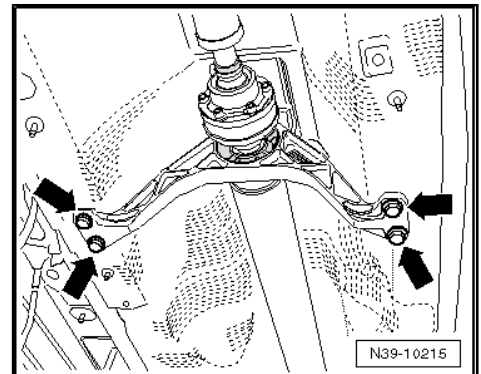
- Remove pendulum support from gearbox, to do so release the bolts -arrow B- and -arrow C-.

i Note

Do not release screw -arrow A-.

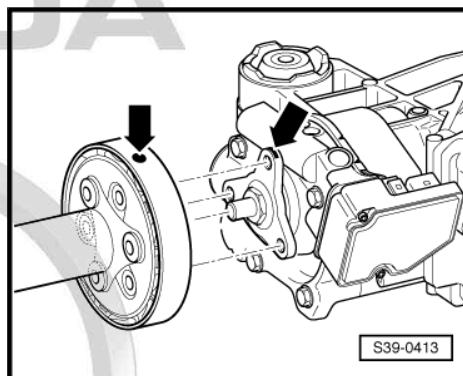


- Slacken intermediate bearing of propshaft from the structure by approx. 4 turns -arrows-.

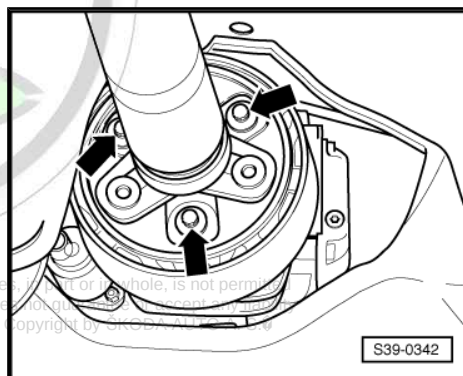




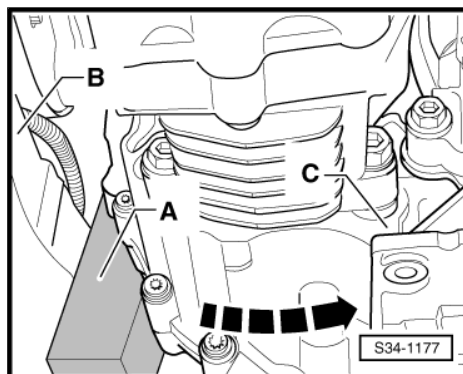
- Check, if a marking (colour point) is present on the flexible disk/oscillation damper and at the flange on the Haldex coupling -arrows-. If not, mark the position of the flexible disk and the flange on the Haldex coupling to each other -arrows-.



- Unscrew propshaft with flexible disk and oscillation damper from rear final drive -arrows-.

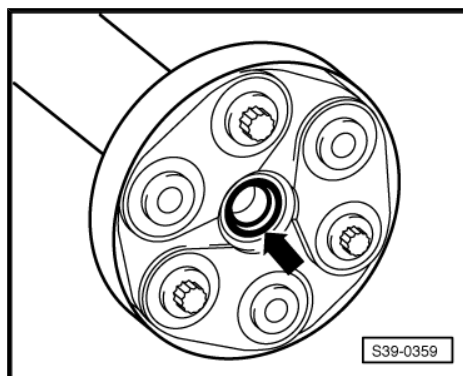


- Subsequently push the engine/gearbox unit to the front with a 2nd mechanic -direction of arrow- and insert a suitable wooden wedge -A- (approx. 50 mm thick) between the assembly carrier -B- and the gearbox -C-.
- While doing so, remove the propshaft from the flange at the Haldex coupling (centering stud) on the rear final drive.

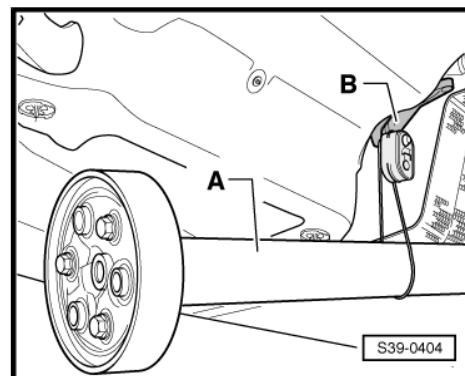


Note

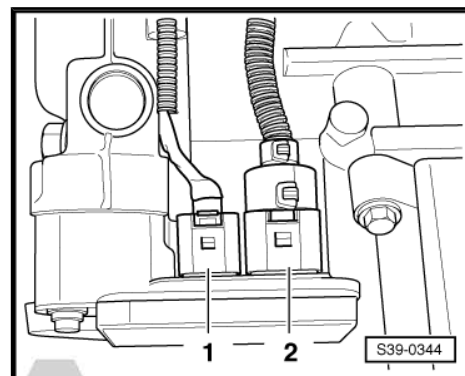
Do not tilt propshaft when removing, pull off horizontally from centering stud of final drive towards the rear. The gasket ring/centering bushing -arrow- must not be damaged, otherwise the propshaft has to be replaced.



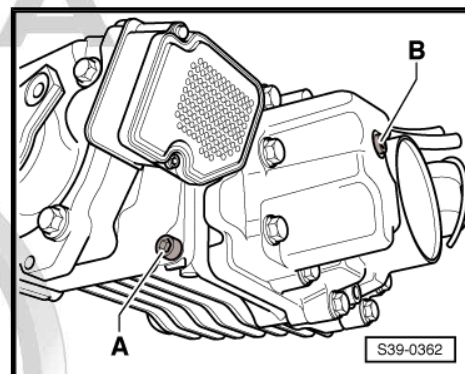
- Tie up the rear part of the propshaft -A- to the suspension -B- of the exhaust gas system.



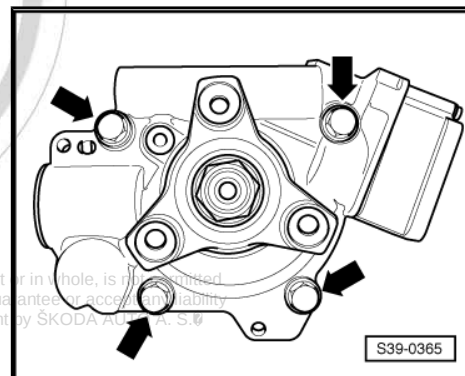
- Unplug connector -2-.
- Place catch pan under the final drive.



- Release check screw -B-.
- Unscrew drain plug -A- and completely drain high efficiency oil for Haldex couplings .
- Screw in new oil drain plug -A- and tighten to the prescribed tightening torque.

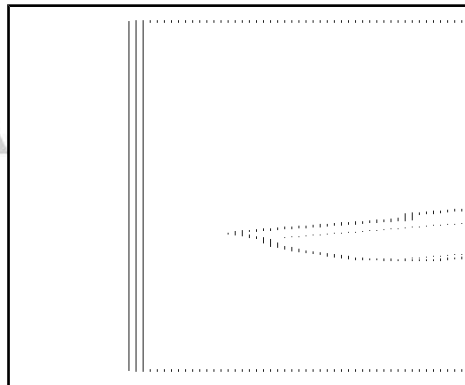


- Release fixing screws -arrows- and pull Haldex coupling out of the rear final drive.



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- Remove the previously installed O-ring -arrow- from the Haldex coupling.

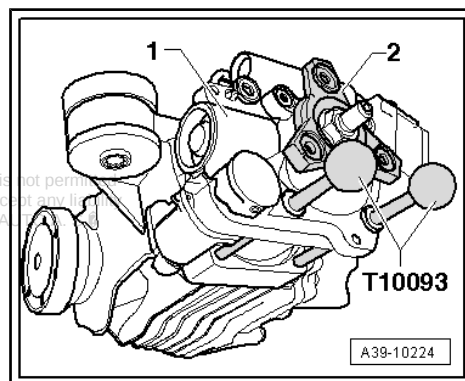


8.2.2 Install

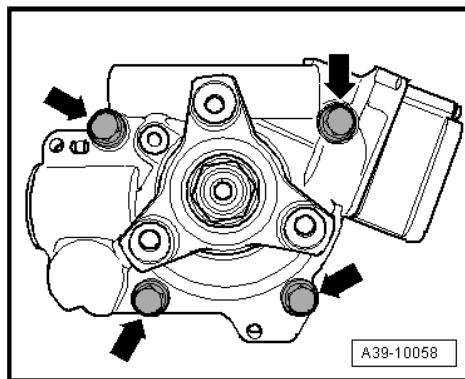
Installation is performed in the reverse order, pay attention to the following points:

- Insert new O-ring and lightly oil with high efficiency oil for Haldex couplings ➔ [Item 3 \(page 178\)](#).
- Insert Haldex coupling -1- into the rear final drive. Screw in guide bars -T10093- for precise guidance.
- Turn on the flange of the propshaft -2- and insert Haldex coupling up to the stop.

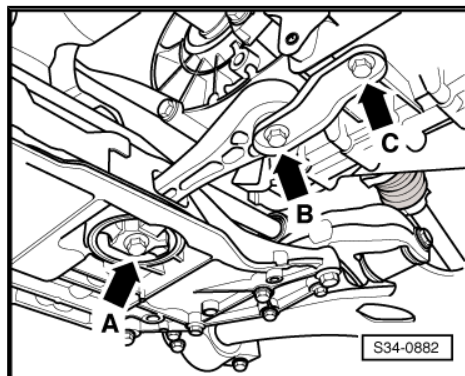
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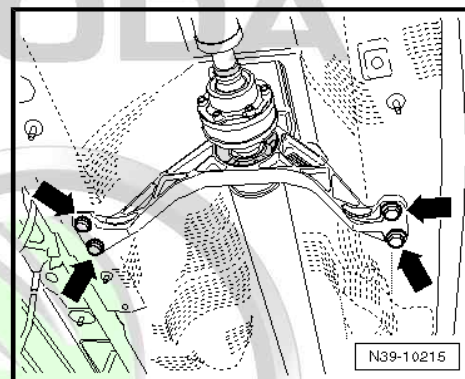
- Unscrew guide bars -T10093- and tighten screws -arrows- to specified tightening torque.
- Install propshaft on final drive and tighten. Tightening torque ➔ [page 145](#).



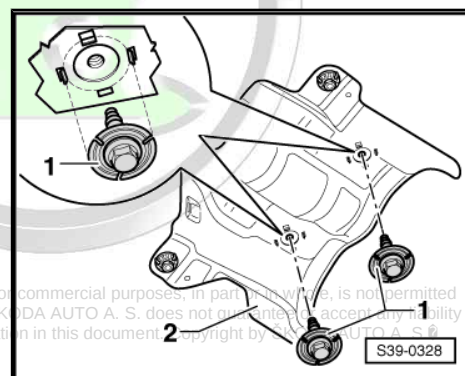
- Tighten the pendulum support with “new” screws -arrows B and C- at the gearbox. Tightening torques ➔ Engine; Rep. Gr. 10.



- Align intermediate bearing free of stress and tighten. Tightening torque ➔ [page 149](#) .



- Install the heat shield below the propshaft.
- Install exhaust system and align free of stress ➔ Engine; Rep. Gr. 26 .
- Fill up with high efficiency oil for Haldex couplings and check oil level in the Haldex coupling ➔ [page 186](#) .



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Tightening torques

Component	Nm
Screw for oil inspection ¹	15
Drain plug ¹	30
Haldex coupling to rear final drive	➔ Item 1 (page 178)

¹⁾ Replace screw with sealing ring ➔ Electronic Catalogue of Original Parts

9 Disassembling and assembling Haldex coupling

9.1 Summary of components - Disassembling and assembling Haldex coupling

1 - O-ring

- ☐ moisten with high efficiency oil for Haldex coupling and insert
- ☐ always replace ⇒ Electronic Catalogue of Original Parts

2 - housing for Haldex coupling

- ☐ Removing and installing Haldex coupling completely ⇒ [page 178](#)

3 - Four-wheel drive control unit -J492-

- ☐ with control valve of opening degree of coupling -N373-
- ☐ removing and installing ⇒ [page 173](#)

4 - 6 Nm

5 - Gasket ring for flange of propshaft

- ☐ removing and installing ⇒ [page 165](#)

6 - Flange for propshaft

- ☐ removing and installing ⇒ [page 165](#)

7 - 210 Nm

- ☐ secure with locking agent -D 000 600-

8 - 50 Nm

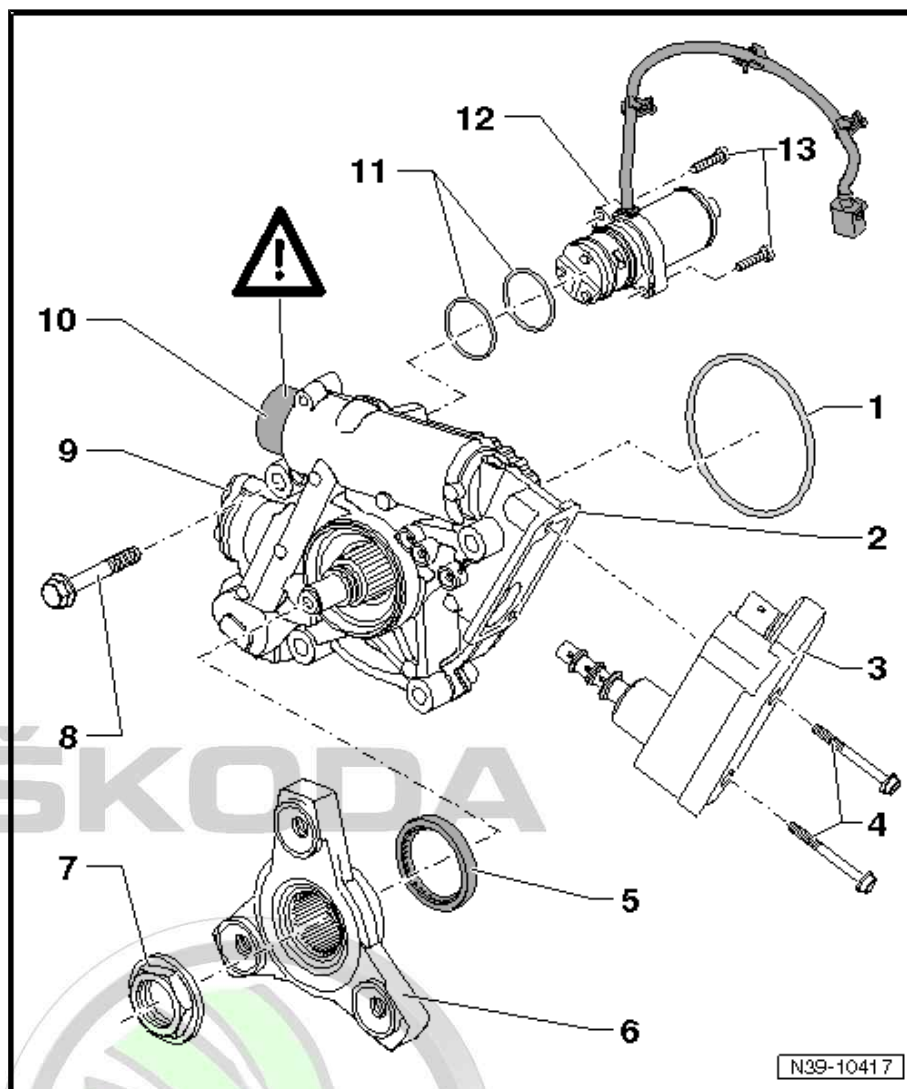
- ☐ 4 pieces
- ☐ for housing of Haldex coupling Pos. 2 to rear final drive

9 - Screw cap

- ☐ for oil filter housing
- ☐ Oil filter change is not necessary

10 - Screw cap

- ☐ for pressure tank



WARNING

The screw cap must never be opened, risk of injuries!

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11 - O-ring

- ☐ 2 pieces

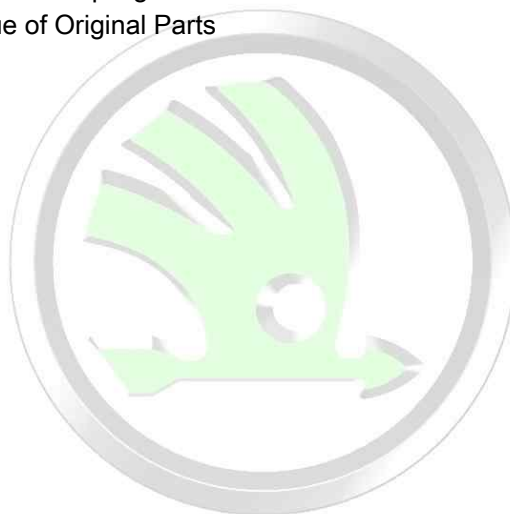


- ☐ Diameter 34 mm
- ☐ for pump for Haldex coupling -V181-
- ☐ moisten with high efficiency oil for Haldex coupling and insert
- ☐ always replace ⇒ Electronic Catalogue of Original Parts

12 - Pump for Haldex coupling -V181-

- ☐ removing and installing ⇒ [page 175](#)

13 - 6 Nm



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10 Check oil level in the Haldex coupling or change oil or top up with oil

10.1 Check oil level in the Haldex coupling

Special tools and workshop equipment required

- ◆ Catch pan

Oil specification ⇒ Electronic Catalogue of Original Parts .

- Measure oil temperature ⇒ Vehicle diagnosis, testing and information system VAS 5051.

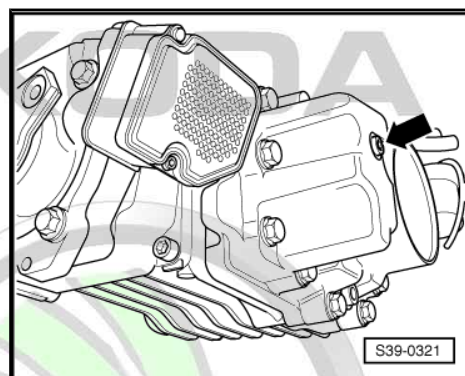
The oil temperature must be between 20 and 40 °C.

The oil temperature can be increased by warming up the engine.

- Place a catch pan under the rear final drive.
- Release screw for oil inspection -arrow-. (Shown on a removed final drive for purposes of clear presentation).

Oil is at the correct level if the Haldex coupling is filled up to the lower edge of the oil filler hole or max. 3 mm below the lower edge of the oil filler hole.

- Screw in new screw -arrow- using a new sealing ring and tighten to 15 Nm.



10.2 Changing oil in the Haldex coupling

Special tools and workshop equipment required

- ◆ Filling device - VAS 6291- or -VAS 6291A-

- ◆ Catch pan

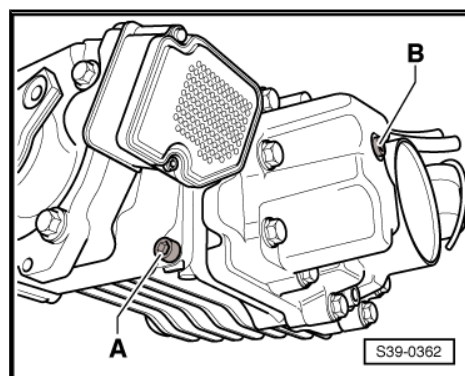
Oil specification ⇒ Electronic Catalogue of Original Parts .

- Raise vehicle.
- For changing, use the filling device , e.g. -VAS 6291- or -VAS 6291A- .

- Place a catch pan under the rear final drive.

- Release screw for oil inspection -B-. (Shown on a removed final drive for purposes of clear presentation).

- Screw out oil drain plug -A-.
- Drain oil.
- Screw in new drain plug -A- using a new sealing ring and tighten to 30 Nm.

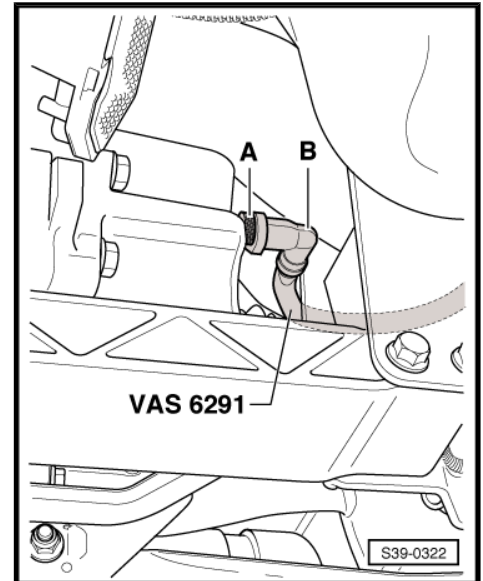


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- Screw in adapter -A- up to the stop into the inspection hole.
- Lock angular piece -B- with adapter.
- Pull hose above the drive shaft.

The hose must not sag. It must come out above the left rear wheel.

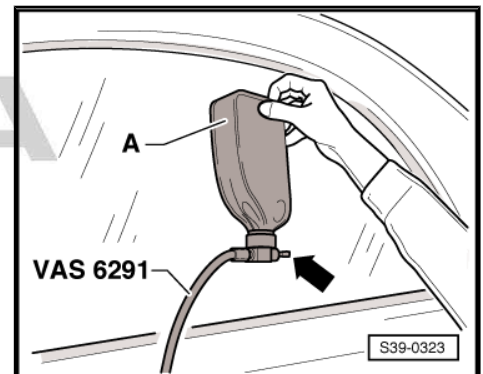
- Lower the vehicle.



- Ensure that the valve -arrow- is closed.
- Screw oil reservoir -A- onto filling device , e.g. -VAS 6291- or -VAS 6291A- .
- Open valve -arrow- and hold oil reservoir as shown.

The Haldex coupling is now filled with oil.

- Raise the vehicle after several minutes.



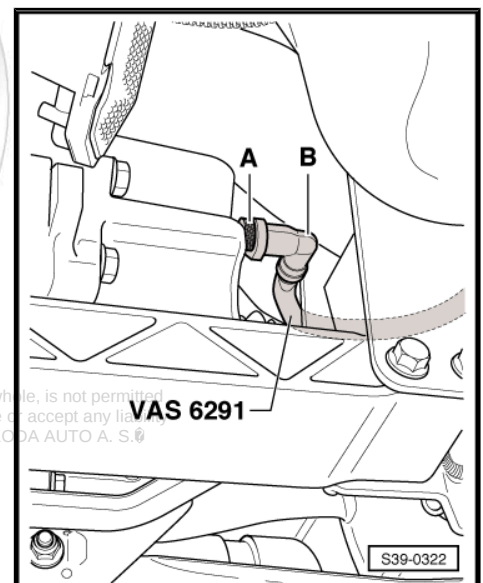
i Note

- ◆ *If the Haldex coupling is correctly filled, oil flows out at the adapter -A-.*
- ◆ *If no oil flows out, lower the vehicle and continue the filling procedure.*

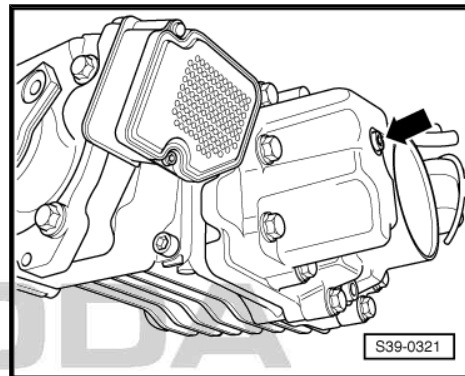
- Raise vehicle.
- If oil flows out, place oil reservoir downwards below the line of the Haldex coupling (e.g. on a tool car).

The excessive oil now flows back into the oil reservoir.

- If no more oil flows back, remove filling device .
- Check oil level in the Haldex coupling ➔ [page 186](#)



- Screw in new screw -arrow- using a new sealing ring and tighten to 15 Nm.



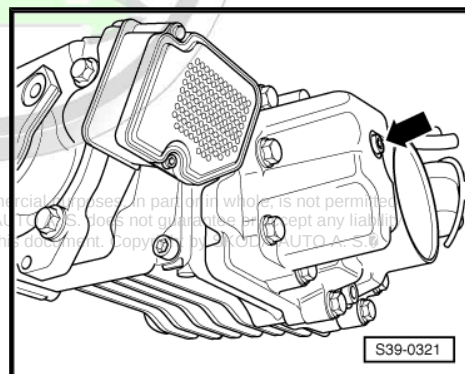
10.3 Refilling oil in Haldex coupling

Special tools and workshop equipment required

- ◆ Filling device - VAS 6291- or -VAS 6291A-
- ◆ Catch pan

Oil specification ⇒ Electronic Catalogue of Original Parts .

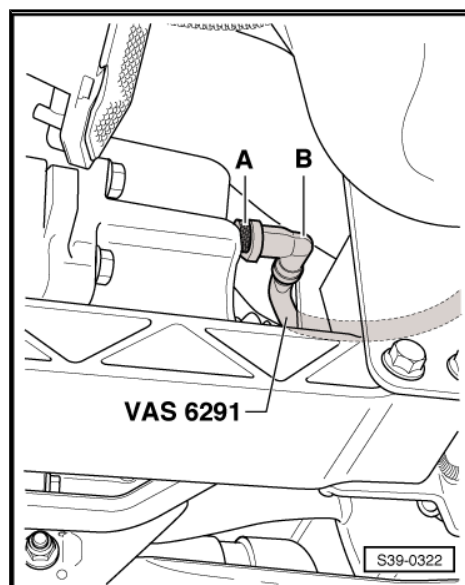
- Raise vehicle.
- For topping up, use filling device , e.g. -VAS 6291- or -VAS 6291A- .
- Place a catch pan under the rear final drive.
- Release screw for oil inspection -arrow-. (Shown on a removed final drive for purposes of clear presentation).



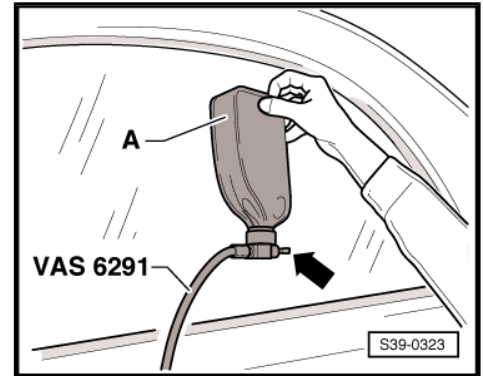
- Screw in adapter -A- up to the stop into the inspection hole.
- Lock angular piece -B- with adapter.
- Pull hose above the drive shaft.

The hose must not sag. It must come out above the left rear wheel.

- Lower the vehicle.



- Ensure that the valve -arrow- is closed.
 - Screw oil reservoir -A- onto filling device , e.g. -VAS 6291- or -VAS 6291A- .
 - Open valve -arrow- and hold oil reservoir as shown.
- The Haldex coupling is now filled with oil.
- Raise the vehicle after several minutes.

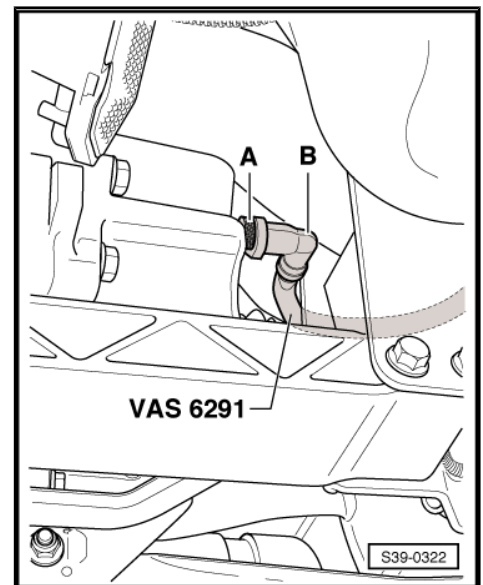


i Note

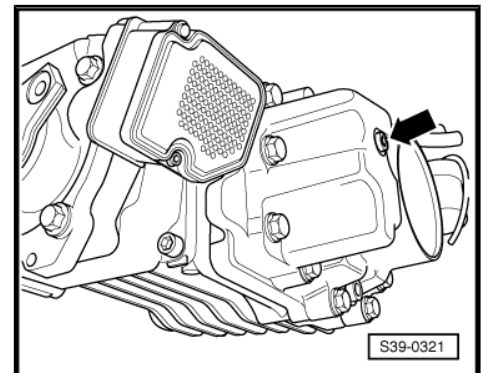
- ◆ *If the Haldex coupling is correctly filled, oil flows out at the adapter -A-.*
 - ◆ *If no oil flows out, lower the vehicle and continue the filling procedure.*
- Raise vehicle.
 - If oil flows out, place oil reservoir downwards below the line of the Haldex coupling (e.g. on a tool car).

The excessive oil now flows back into the oil reservoir.

- If no more oil flows back, remove filling device .
- Check oil level in the Haldex coupling ⇒ [page 186](#)



- Screw in new screw -arrow- using a new sealing ring and tighten to 15 Nm.



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11 Check the oil level in the rear final drive or top up with oil

Special tools and workshop equipment required

- ♦ Filling device -VAS 6291- or -VAS 6291A-
- ♦ Catch pan

Oil specification ⇒ Electronic Catalogue of Original Parts .

- Vehicle on level ground.

11.1 Check the oil level in the rear final drive

- Place a catch pan under the rear final drive.
- Unscrew screw -1- for oil inspection.

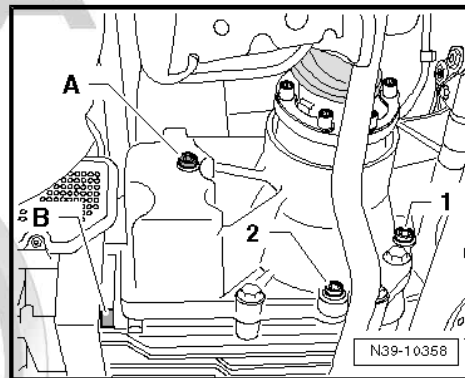


Note

Never release the following screws: -2- (drain plug for rear final drive), -A- (filler screw for Haldex coupling) and -B- (drain plug for Haldex coupling).

Oil is at the correct level if the rear final drive is filled up to the lower edge of the oil filler hole.

- Screw in new screw -1- and tighten to 15 Nm



11.2 Top up rear final drive with oil

- Place a catch pan under the rear final drive.
- Fill up with as much oil as possible using the filling device -VAS 6291- or -VAS 6291A- until it flows out between the adapter of the filling device and the final drive housing.
- Remove filling device and adapter. Some excess oil might still drain off.

Oil is at the correct level if the rear final drive is filled up to the lower edge of the oil filler hole.

- Screw in new screw -1- and tighten to 15 Nm

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12 Inspecting operation of Haldex coupling - Vehicles with automatic gearbox DSG - 02E

Special tools and workshop equipment required

- ◆ Vehicle Diagnosis, Measurement and Information System - VAS 505x-

Before repairing the Haldex coupling, try to determine the origin of the damage as accurately as possible using the ⇒ Vehicle diagnosis, testing and information system VAS 5051 in the functions "Targeted fault finding", "Vehicle self-diagnosis" and "Measuring method".



Note

- ◆ *The Haldex coupling is tested on the lift platform using the vehicle diagnosis, measurement and information system -VAS 505x-.*
- ◆ *For safety reasons, the vehicle must be placed on the lifting platform in such a way that the wheels have no contact with the ground. Proceed carefully when inspecting.*

12.1 Functional test



WARNING

- ◆ *Only the vehicle diagnosis, measurement and information system -VAS 505x- must be used to read the measured value blocks.*

- Connect the vehicle diagnosis, measurement and information system -VAS 505x- to the diagnostic connection once the ignition is switched off.

Fitting location: Cover in driver's footwell.

- Raise vehicle ⇒ Maintenance ; Octavia II .
- Select "chassis" on the display.
- Select "four-wheel drive with Haldex coupling (4th generation)" on the display.
- Select "01 - self-diagnosable system" on the display.
- Select "functions" on the display.
- Select "final control diagnosis" on the display.
- Follow the instructions on the tester.
- Select "functional test for Haldex coupling" on the display.
- Follow the instructions on the tester.